JUN 19 1995 55 STA 5

ENGINEERING DATA TRANSMITTAL

Page 1 of 1

EDT No 612162

2. To: (Receiving Organization)	3. From: (Originating Organization)	4. Related EDT No.
Distribution	Characterization Plans, Coordination and Reports	N/A
5. Proj./Prog./Dept./Div.:	**6. Cog. Engr.:**	**7. Purchase Order No.:**
Tank 241-C-202/Waste Management/CPCR/Technical Basis Char.	John H. Baldwin	N/A
8. Originator Remarks:		**9. Equip./Component No.:**
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11. Receiver Remarks:		**12. Major Assm. Dwg. No.:**
For Release.		N/A
		13. Permit/Permit Application No.:
		N/A
		14. Required Response Date:
		06/19/95

15. DATA TRANSMITTED

(A) Item No.	(B) Document/Drawing No.	(C) Sheet No.	(D) Rev. No.	(E) Title or Description of Data Transmitted	(F) Approval Designator	(G) Reason for Transmittal	(H) Originator Disposition	(I) Receiver Disposition
1	WHC-SD-WM-DP-132	N/A	0	45-Day Safety Screen Results and Final Report for Tank 241-C-202, Auger Samples 95-AUG-026 and 95-AUG-027	Q	2	1	

16. KEY

Approval Designator (F)	Reason for Transmittal (G)	Disposition (H) & (I)
E, S, Q, D or N/A (see WHC-CM-3-5, Sec.12.7)	1. Approval 4. Review 2. Release 5. Post-Review 3. Information 6. Dist. (Receipt Acknow. Required)	1. Approved 4. Reviewed no/comment 2. Approved w/comment 5. Reviewed w/comment 3. Disapproved w/comment 6. Receipt acknowledged

17. SIGNATURE/DISTRIBUTION (See Approval Designator for required signatures)

(G) Reason	(H) Disp.	(J) Name	(K) Signature	(L) Date	(M) MSIN	(J) Name	(K) Signature	(L) Date	(M) MSIN	(G) Reason	(H) Disp.
2	1	Cog.Eng. J.H. Baldwin	John Baldwin	6/16/95	TU-07						
2	1	Cog. Mgr. J.G. Kristofzski		6/16/95	TU-04						
2	1	QA E. W. Miller	E.W. Miller	6/16/95	N4-14						
		Safety									
		Env.									

JUL 1995 RECEIVED EDMC

18.	19.	20.	21. DOE APPROVAL (if required)
A.E. Young Signature of EDT Originator Date: 6-16-95	Authorized Representative for Receiving Organization Date	J.G. Kristofzski Cognizant Manager Date: 6/16/95	Ctrl. No. [ ] Approved [ ] Approved w/comments [ ] Disapproved w/comments

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RELEASE AUTHORIZATION

Document Number:	WHC-SD-WM-DP-132, REV 0
Document Title:	45-Day Safety Screen Results and Final Report for Tank 241-C-202, Auger Samples 95-AUG-026 and 95-AUG-027
Release Date:	6/19/95

This document was reviewed following the procedures described in WHC-CM-3-4 and is:

APPROVED FOR PUBLIC RELEASE

WHC Information Release Administration Specialist:

Kara M. Broz — June 19, 1995

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SUPPORTING DOCUMENT

1. Total Pages 106

2. Title	3. Number	4. Rev No.
45-Day Safety Screen Results and Final Report for Tank 241-C-202, Auger Samples 95-AUG-026 and 95-AUG-027	WHC-SD-WM-DP-132	0

5. Key Words	6. Author
45-Day Safety Screen Results, Safety Screen Results, Safety Screen, Final Report, Tank 241-C-202, Tank C-202, C-202, Auger Samples, 95-AUG-026, 95-AUG-027	Name: John H. Baldwin Signature Organization/Charge Code 75310/MDR21

7. Abstract

N/A

8. RELEASE STAMP

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Westinghouse
Hanford Company

P.O. Box 1970 Richland, WA 99352

WHC-SD-WM-DP-132, REV. 0

ANALYTICAL SERVICES

45-DAY SAFETY SCREEN RESULTS AND FINAL REPORT FOR TANK 241-C-202, AUGER SAMPLES 95-AUG-026 AND 95-AUG-027

Date Printed: JUNE 16, 1995

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TABLE OF CONTENTS

This Document consists of pages 1 through 64.

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NARRATIVE

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45-DAY SAFETY SCREEN RESULTS FOR TANK 241-C-202, AUGER SAMPLES 95-AUG-026 AND 95-AUG-027

ANALYTICAL SUMMARY

Two auger samples from tank 241-C-202 (C-202) were received at the 222-S Laboratories and underwent safety screening analysis, consisting of differential scanning calorimetry (DSC), thermogravimetric analysis (TGA), and total alpha activity. Two samples were submitted for energetics determination by DSC. Within the triplicate analyses of each sample, one of the results for energetics exceeded the notification limit. The sample and duplicate analyses for both augers exceeded the notification limit for TGA. As required by the Tank Characterization Plan, the appropriate notifications were made within 24 hours of official confirmation that the limits were violated.

SCOPE

This document serves as the 45-day report deliverable for the tank C-202 auger samples collected on May 5, 1995 (samples 95-AUG-026 and 95-AUG-027). Each sample was received, extruded, and analyzed by the 222-S Laboratories in accordance with the Tank Characterization Plan (TCP) referenced below. Included in this report are the primary safety screening results (DSC, TGA, and total alpha) and copies of all DSC and TGA raw data scans as requested in the TCP. A photograph of the auger sample 95-AUG-026 was taken during extrusion and, is included in this report. Photographs of auger sample 95-AUG-027 did not turn out although video of the extrusion is available.

Although one of three DSC tests and the TGA tests violated the limits, it was decided not to proceed with secondary analyses due to insufficient sample remaining and the similarities of this tank to other C-Farm 200 series tanks (tank transfer histories are similar and tanks C-201 and C-204 exceeded the DSC limit. Tank C-201 had low moisture content by TGA also).

SAMPLE RECEIPT, EXTRUSION, AND SUBSAMPLING

95-AUG-026

Sample 95-AUG-026 was collected from riser 7 (east coordinate) of tank C-202 using a 20-inch auger sampler. The sample was taken on May 5, 1995 at 1100 hours. It was received into the 222-S Laboratories on May 8 and extruded on May 9. Upon extrusion, a total of 6.35 grams of solid material was collected, with no drainable liquid. The tank waste solids were dry and powdery. The solids were grey to brown in color with some yellow colored solids intermixed. No material was available for archive due to the small sample size. Subsamples are identified in Table 1.

95-AUG-027

Sample 95-AUG-027 was collected from riser 7 (west coordinate) of tank C-204 using a 20-inch auger sampler. The sample was taken on May 5, 1995 at 1145 hours. It was received into the 222-S Laboratories on May 8 and extruded on May . A total of 2.19 grams of solid material were collected, with no drainable liquid. The tank waste solids were dry and powdery. The solids were grey to brown in color with some yellow colored solids intermixed. No material was available for archive due to the small sample size. Subsamples are identified in Table 1.

Table 1. C-202 Subsample Identification

Sample ID	Sample Description	Analyses
S95T000900	95-AUG-026 extrusion, Whole Segment	extrusion
S95T000901	95-AUG-027 extrusion, Whole Segment	extrusion
S95T000902	95-AUG-026 whole segment solids, direct analysis	DSC/TGA
S95T000903	95-AUG-026 whole segment fusion	fusion/alpha
S95T000904	95-AUG-027 whole segment solids, direct analysis	DSC/TGA
S95T000905	95-AUG-027 whole segment fusion	fusion/alpha

ANALYTICAL RESULTS

Analytical results are summarized in Tables 3 and 4, with the applicable notification limits shaded. For tests where more than one replicate was performed, the results are presented in a another table for clarity (e.g. Table 2). The summary tables (created electronically from the laboratory sample management program) only include sample and duplicate results.

DSC (Energetics Content)

DSC analyses were performed under a nitrogen atmosphere using procedure LA-514-113, Rev. B-1. Exotherms exceeding the notification limit of 481 J/g were detected for both samples. The duplicate and triplicate results did not exceed the notification limit for either sample although a final value was not achieved.

The control standard run along with these samples exhibited a recovery of 101.2 percent, within the program's specified accuracy control limits of 90 to 110 percent recovery.

Reproducible results for samples S95T000902 and S95T000904 were not obtained. The exotherms continued through 500°C (a baseline was not re-established). This behavior was also observed for Tank C-204. The standards which were run with these samples exhibited acceptable recovery (within 10% of the accepted true value). The empirical observation is that this is a real event.

The DSC analyzer can only integrate between fixed points on the graph; therefore, since the scans did not return to baseline, these data can only be reported as minimum values. Both samples (S95T000902 and S95T000904) were run in triplicate. The largest exotherm on sample S95T000902 was >548.0 J/g (dry basis). The largest exotherm on sample S95T000904 was >613.0 J/g (dry basis). As the scans for these samples did not return to baseline, the RPD's calculated in Table 3 are not applicable. The sample mean and standard deviation were also not calculated for these samples because only "greater than" values were obtained. The DSC results for samples S95T000902 and S95T000904 are presented in Table 2. The variability of the results is potentially explained by the non-homogeneity of the sample at the small sample size used for the DSC. Although the sample was finely ground to homogenize as completely as possible, there would still be considerable non-homogeneity for small solid granular samples such as these.

Table 2. Summary of Calculated Dry DSC Results for S95T000902 and S95T000904

Sample	Result	Duplicate	Triplicate	Mean	Std. Dev.
S95T000902	>548	>192	>326	n/a	n/a
S95T000904	>613	>223	>312	n/a	n/a

TGA (Moisture Content)

Weight percent water is calculated from weight loss by TGA. These analyses were performed under a nitrogen atmosphere using procedure LA-560-112, Rev. A-2. The percent water was below the notification limit of 17% for both samples. Notification is required when percent water is less than 17%. Results for the two samples and their duplicates ranged in value from 4.88 to 6.96 percent water by weight. The TGA results for sample S95T000902 and sample S95T000904 are presented in Tables 3 and 4.

The control standard run with these analyses, exhibited recovery of 99.31 percent, which was within the program's specified accuracy control limits of 90 to 110 percent.

Total Alpha Activity

Analyses for total alpha activity were performed on two samples. Samples were prepared by fusion using procedure LA-549-141, Rev. C-3, and analyses were performed using procedure LA-508-101, Rev. D-2. A sample duplicate was performed on each sample. All results ranged from 7.94 to 10.20 μCi/g. The RPD for sample S95T000905 exceeded the TCP target of 10%. As all results were below the safety screening limit of 41 μCi/g by a factor of approximately 4 or more, reruns were deemed unnecessary.

The control standard was run with a recovery of 95.4% and within the TCP target of 90 to 110%. A spike was performed on sample S95T000905, with a recovery of 88.8%. This is outside of the TCP target recovery of 90 to 110%. Spike recoveries for alpha have typically been below the target criterion. The laboratory is addressing this situation. Since the sample results were below the action limit, the poor spike recovery did not necessitate further testing (this method is for screening purposes - highly accurate results are not required below the limit).

REFERENCE Schreiber, R. D., 1995, WHC-SD-WM-TP-305, Revision 0, "*Tank 241-C-202 Tank Characterization Plan*, dated March 6, 1995.

Responsible Project Coordinator: J. H. Baldwin

SAMPLE DATA SUMMARY

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45 DAY SAFETY SCREEN RESULTS FOR AUGERS 95-AUG-026/027
C-202

CORE NUMBER: n/a
SEGMENT #: 95-AUG-026

TABLE 3

SEGMENT PORTION: W Whole Segment

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T000902			% Water by TGA using Mettler	%	17.000	101.000	99.31	n/a	5.390	4.88	5.135	9.93	n/a	n/a	n/a
S95T000902			DSC Exotherm Dry Calculated	Joules/g Dry	-1.000	481.000	n/a	n/a	> 548	>192	n/a	n/a	n/a	1.00e-04	n/a
S95T000902			DSC Exotherm using Mettler	Joules/g	None	None	101.2	n/a	> 511.2	>178.7	n/a	n/a	n/a	n/a	n/a
S95T000903	F		Alpha of Digested Solid	uCi/g	-1.000	41.000	95.40	<2.42e-02	7.990	7.94e+0	7.96e+00	0.63	91.60	5.00e-02	3.9

=> Limit violated
=> Selected Limit

2

45 DAY SAFETY SCREEN RESULTS FOR AUGERS 95-AUG-026/027
C-202

CORE NUMBER: n/a
SEGMENT #: 95-AUG-027

Table 4

SEGMENT PORTION: W Whole Segment

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T000904			% Water by TGA using Mettler	%	12.000	101.000	99.31	n/a	6.960	6.49	6.725	6.99	n/a	n/a	n/a
S95T000904			DSC Exotherm Dry Calculated	Joules/g Dry	-1.000	481.000	n/a	n/a	> 613	>223	n/a	n/a	n/a	1.00e-04	n/a
S95T000904			DSC Exotherm using Mettler	Joules/g	None	None	101.2	n/a	> 581.8	>212.0	n/a	n/a	n/a	n/a	n/a
S95T000905		F	Alpha of Digested Solid	uCi/g	-1.000	41.000	95.40	<2.42e-02	10.20	8.43e+0	9.31e+00	19.0	88.80	5.40e-02	3.6

=> Limit violated
=> Selected Limit

CHAIN OF CUSTODY FORMS

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CHAIN-OF-CUSTODY RECORD FOR AUGER SAMPLING

COPY

(1) Shipment Number 2004 08 TF (2) Sample Number 95-AUG-026 (3) Supervisor JAMES SICKELS

(4) Tank C-202 (5) Riser 7 EAST (6) Cask Serial Number 1001C

Radiation Survey Data:	(7) FIELD	(31) LABORATORY
Over Top Dose Rate	< 5 mR/hr	< 0.5 mR/hr
Side Dose Rate	< 5 mR/hr	< 0.5 mR/hr
Bottom Dose Rate	< 5 mR/hr	< 0.5 mR/hr
Smearable Contamination	< 20 dpm/100cm² (Alpha)	< 20 dpm/100cm² (Alpha)
	< 1K dpm/100 cm² (Beta-Gamma)	< 1 K dpm/100cm² (Beta-Gamma)
RCT*	[signature] (Signature)	RCT* CBell (Signature)

(8) Shipment Description

A. Work Package Number	ES-95-00007/0
B. Cask Seal Number	1032
C. Date and Time Sample Removed from Tank	5-5-95 11:00 AM
D. Expected Liquid Content	10%
E. Expected Solid Content	90%
F. Dose Rate Through Drill String	3.5 mR/hr
G. Expected Sample Length	8"

(9) INFORMATION (Include statement of laboratory tests to be performed.)

10

(10) Field Comments

(32) Laboratory Comments

(11) Point of Origin	(12) Destination	(13) Sender Name (Sign and PRINT)	(14) Date/Time	(15) Sender Comments
C-202 R# 7	2225 LABS	JAMES SICKELS	5-8-95 10.40	
(17) Relinquished By (Sign and PRINT)	**(18) Received By (Sign and PRINT)**		**(19) Date/Time**	**(20) Receiver Comments**
JAMES SICKELS	C Ed Byrd		5-8-95 10.40	
(21) Relinquished By (Sign and PRINT)	**(22) Received By (Sign and PRINT)**		**(23) Date/Time**	**(24) Receiver Comments**
C Ed Byrd	N LAPIERS		5-8-95 1100	
(25) Relinquished By (Sign and PRINT)	**(26) Received By (Sign and PRINT)**		**(27) Date/Time**	**(28) Receiver Comments**

(16) Seal Intact Upon Release?	(29) Seal Intact Upon Receipt?	(30) Seal Data Consistent with this Record?		
		Shipment No.	Cask Seal No.	Sample No.
☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Waste Tank Sampling, F7-12 Goldenrod - Tank Farm Operations, T4-01 BC-6001-326 (03/94)

WHC-SD-WM-DP-132, REV. 0

COPY

CHAIN-OF-CUSTODY RECORD FOR AUGER SAMPLING

(1) Shipment Number 200W08TF (2) Sample Number 95-AUG-27 (3) Supervisor JAMES SICKELS

(4) Tank C-202 (5) Riser 7WEST (6) Cask Serial Number 1008C

Radiation Survey Data:	(7) FIELD	(31) LABORATORY
Over Top Dose Rate	2.5 mR/hr	<0.5 mR/hr
Side Dose Rate	2.5 mR/hr	<0.5 mR/hr
Bottom Dose Rate	2.5 mR/hr	<0.5 mR/hr
Smearable Contamination	<20 Dpm/100cm² (Alpha)	<200 dpm/100cm² (Alpha)
	<1K Dpm/100cm² (Beta-Gamma)	<1K dpm/100cm² (Beta-Gamma)
RCT*	(Signature)	RCT* (Signature)

(8) Shipment Description

A. Work Package Number	ES-95-00007/0
B. Cask Seal Number	1033
C. Date and Time Sample Removed from Tank	5-5-95 11:45 AM
D. Expected Liquid Content	10%
E. Expected Solid Content	90%
F. Dose Rate Through Drill String	2.5 mR/hr
G. Expected Sample Length	8"

(9) INFORMATION (Include statement of laboratory tests to be performed.)

11

(10) Field Comments

(32) Laboratory Comments

(11) Point of Origin	(12) Destination	(13) Sender Name (Sign and PRINT)	(14) Date/Time	(15) Sender Comments
C-202	222 S LAB	JAMES SICKELS	5-8-95 10:40	
(17) Relinquished By (Sign and PRINT)		(18) Received By (Sign and PRINT)	(19) Date/Time	(20) Receiver Comments
JAMES SICKELS			5-8-95 10:40	
(21) Relinquished By (Sign and PRINT)		(22) Received By (Sign and PRINT)	(23) Date/Time	(24) Receiver Comments
C E Byrd		N LAPIERS	5-8-95 1100	
(25) Relinquished By (Sign and PRINT)		(26) Received By (Sign and PRINT)	(27) Date/Time	(28) Receiver Comments

(16) Seal Intact Upon Release?	(29) Seal Intact Upon Receipt?	(30) Seal Data Consistent with this Record?		
		Shipment No.	Cask Seal No.	Sample No.
☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No

WHC-SD-WM-DP-132, REV 0

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Waste Tank Sampling, F7-12 Goldenrod - Tank Farm Operations, T4-01 BC-6001-326 (03/94)

CORRESPONDENCE

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Author: J P Sederburg at ~WHC140
Date: 6/13/95 4:24 PM
Priority: Normal
TO: John H Baldwin at ~WHC121
CC: Nicholas W (Nick) Kirch
CC: David A Turner at ~WHC117
CC: J P Sederburg
Subject: AUGER SAMPLES FROM TANK C-202

------------------------------------ Message Contents ------------------------------------

This memo is being transmitted to address the question:

What additional analyses need to be performed (if any) using the material that currently remains from recent auger sampling of tank 241-C-202?

Based upon the facts:

- o All of the C-Farm 200 series tanks (C-201, 2, 3, and 4) contain waste from "HOT-SEMIWORKS" sent in the late 1950s to mid 1960s,
- o Most of these four tanks show exothermic behavior (some more than others),
- o Most of these tanks have a tendency to be fairly dry (except C-204),
- o The in-tank-photos look similar for all four tanks, and
- o Insufficient material exists from tank C-202.

I recommend that:

1) You proceed as planned with issuing the 45 Day Report for tank C-202, and

2) No further analyses of the waste from tank C-202 be performed,

until more thought can be put into questions like:

What will the added data tell us that we don't already know?

How much will the added analyses cost us vs. the benefit gained from the data?

What will we do different if we have the added data?

If you have any questions about this memo please call me at 373-3327.

Author: Andrew D Rice at ~WHC168
Date: 5/26/95 1:01 PM
Priority: Normal
Subject: Notification: Tank C-202 DSC/TGA Limits Exceeded

---------- Message Contents ----------

This notification is in accordance with WHC-SD-WM-TP-305 "Tank 241-C-202 Tank Characterization Plan", which requires written notification when sample results exceed the limits specified in the above document. Verbal notification was made to the East Area Tank Farms Shift Manager on 3/25/95.

95-AUG-026

Sample ID	Analysis	Result	Duplicate	Triplicate	Limit
S95T000902	TGA(%)	5.39	4.88	n/a	<17
S95T000902	DSC(J/g dry)	>539	>188	>320	>481

95-AUG-027

Sample ID	Analysis	Result	Duplicate	Triplicate	Limit
S95T000904	TGA(%)	6.96	6.49	n/a	<17
S95T000904	DSC(J/g dry)	>624	>227	>317	>481

These samples were run under a nitrogen purge. The DSC results are listed as "greater than" because the instrument did not return to the baseline at the end of the analysis.

Questions concerning these samples should be directed to AD Rice, 373-5878.

PHOTOGRAPHS

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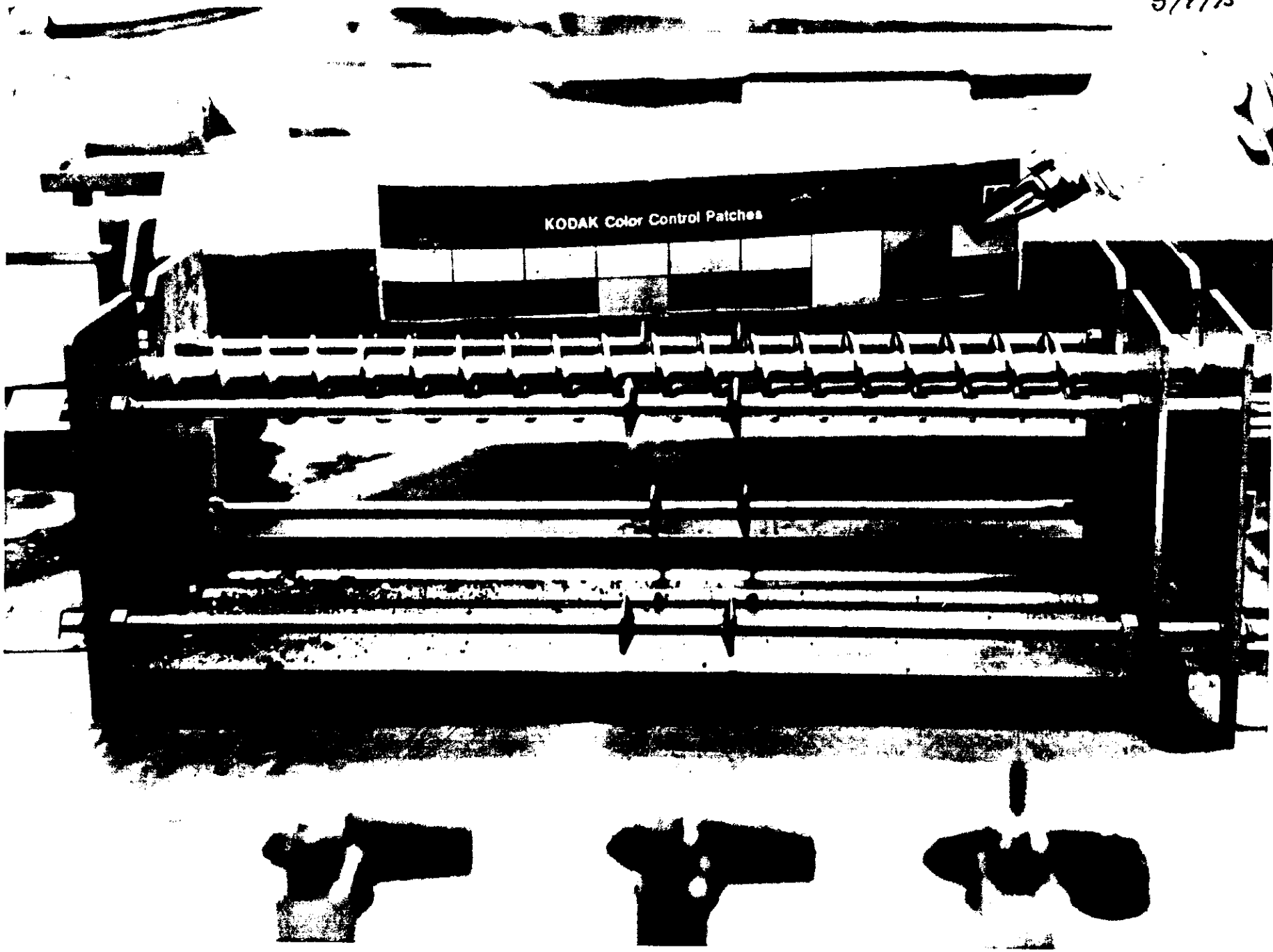
C-202 95-AUG-026 5/9/95



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HOT CELL LOGBOOK

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NOTEBOOK/LOGBOOK UNCLASSIFIED COVERSHEET

SEC CONTROLLED COPY

MAR 2 2 1995

RETURN TO UNCLASSIFIED DOCUMENT CONTROL

Notebook No. Whc-N-1140 1

Date of Issue 3-22-95 Copy 1

Title 241-C-202

Author R K Fuller

If continued from another notebook give the notebook number

This is a Controlled Notebook. The assigned custodian is responsible for this book. When the book is completed, contact your Records Management Specialist for a Retention Schedule. Complete Section II of this form and return the Notebook to Unclassified Document Control, A4-18.

Responsible Custodian	Payroll No.	MSIN	Date Assigned
R K Fuller	[redacted]	T6-31	MAR 2 2 1995

SECTION II Complete this section prior to returning notebook to Unclassified Document Control, A4-18

Abstract: (Give brief description of notebook contents)

Period Covered: (Inclusive dates - Month/Day/Year)

Certification Statement: This notebook does ☐ does not ☐ contain any Quality Assurance Record Material (as described in Section 9.0 of WHC-CM-3-5) and has been verified to be a complete and legible record.

Custodian's Signature and Date

Retention Schedule:	Specialist Concurrence Name	Custodian's Manager's Name

BD-6001-256 (10/93)

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COPY

CHAIN-OF-CUSTODY RECORD FOR AUGER SAMPLING

(1) Shipment Number 200W 08 TF (2) Sample Number 95-AUG-026 (3) Supervisor JAMES Sickels

(4) Tank C-202 (5) Riser 7EAST (6) Cask Serial Number 1001C

Radiation Survey Data:	(7) FIELD	(31) LABORATORY
Over Top Dose Rate	<.5 mR/hr	<0.5 mR/hr
Side Dose Rate	<.5 mR/hr	<0.5 mR/hr
Bottom Dose Rate	<.5 mR/hr	<0.5 mR/hr
Smearable Contamination	< 20 dpm/100cm² (Alpha)	<20 dpm/100cm² (Alpha)
	<1K dpm/100cm² (Beta-Gamma)	<1K dpm/100cm² (Beta-Gamma)
RCT*	[signature] (Signature)	CBew (Signature)

(8) Shipment Description

A. Work Package Number	ES-95-00007/0
B. Cask Seal Number	1032
C. Date and Time Sample Removed from Tank	5-5-95 11:00AM
D. Expected Liquid Content	10%
E. Expected Solid Content	90%
F. Dose Rate Through Drill String	3.5 mR/hr
G. Expected Sample Length	8"

(9) INFORMATION (Include statement of laboratory tests to be performed.)

20

(10) Field Comments

(32) Laboratory Comments

(11) Point of Origin	(12) Destination	(13) Sender Name (Sign and PRINT)	(14) Date/Time	(15) Sender Comments
C-202 R#7	222S Labs	[signature] JAMES SICKELS	5-8-95 10:40	
(17) Relinquished By (Sign and PRINT)		(18) Received By (Sign and PRINT)	(19) Date/Time	(20) Receiver Comments
[signature] JAMES SICKELS		[signature] C Ed Byrd	5-8-95 10:40	
(21) Relinquished By (Sign and PRINT)		(22) Received By (Sign and PRINT)	(23) Date/Time	(24) Receiver Comments
[signature] C E Byrd		N Lapiers N LAPIERS	5-8-95 1100	
(25) Relinquished By (Sign and PRINT)		(26) Received By (Sign and PRINT)	(27) Date/Time	(28) Receiver Comments

(16) Seal Intact Upon Release? ☑ Yes ☐ No

(29) Seal Intact Upon Receipt? ☑ Yes ☐ No

(30) Seal Data Consistent with this Record?

Shipment No. ☑ Yes ☐ No Cask Seal No. ☑ Yes ☐ No Sample No. ☑ Yes ☐ No

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Waste Tank Sampling, F7-12 Goldenrod - Tank Farm Operations, T4-01 BC-6001-326 (02/94)

9 05-09-95 C-202 Riser #7 East

32, REV. 0

C-202 95-AUG-026 Riser # 7 EAST 05-09-95

20g = 19.99 500g = 499.98 (BALANCE checks)

P.C. ANDREW RICE
LABCORE # S95T000900
WORKLIST # 1364

TAPE # 1-A C-FARM

Hot cell Temperature & Humidity

Temperature = 79.3°F Humidity 37%

EXTRUSION Description:

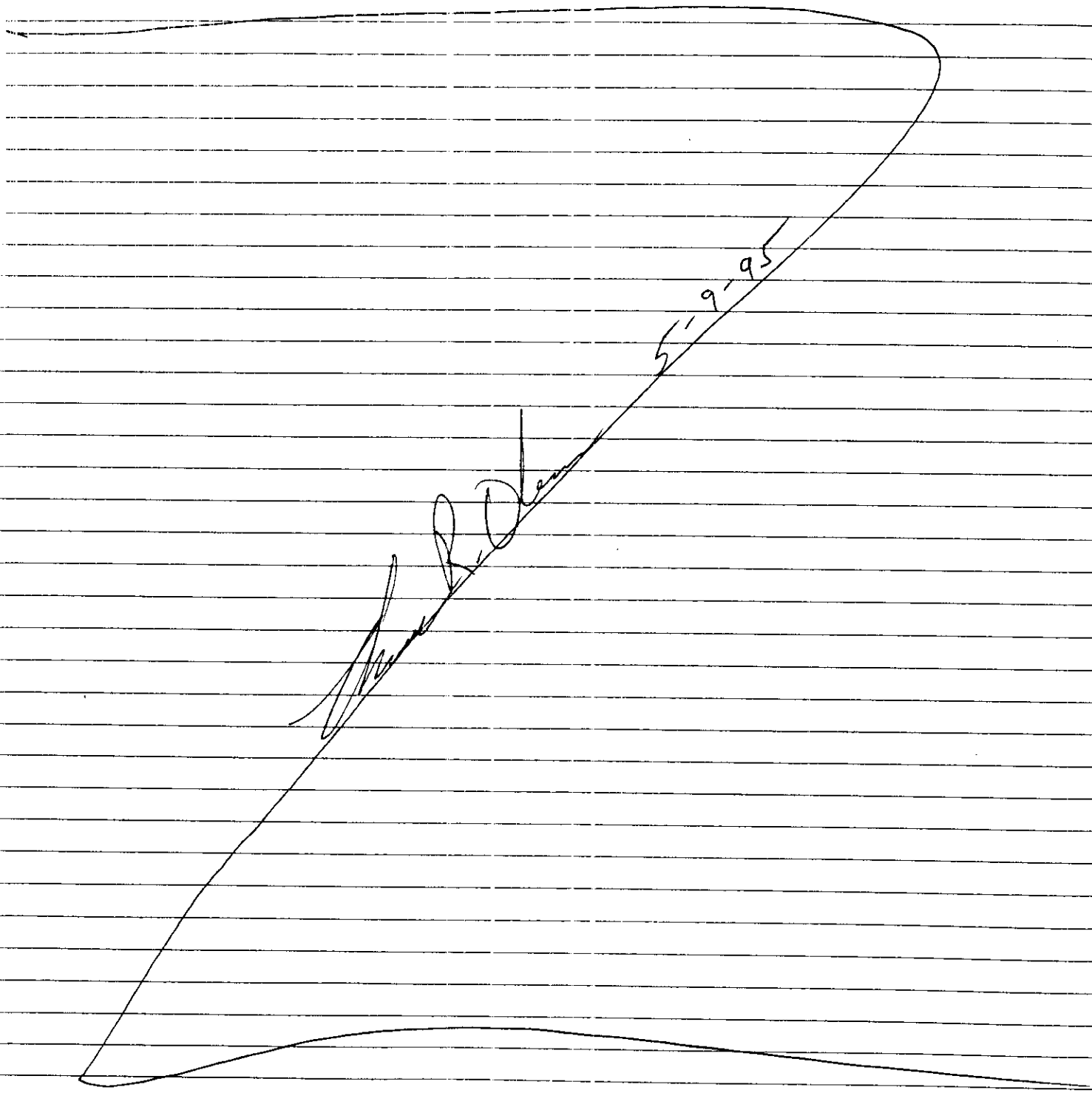
VERY Dry - small Amount of sample on tip of sampler
Flutes 1-16 were clean.
No material adhere to auger.
color of solids Range from Light Brown to Black with
yellow solids mixed In.
Solids Ranged from A Fine powder to 1cm (In chunks).

Sample Description (Solids)
C-202-95-AUG-026 Riser # 7 EAST

vial # 7172
vial size 40ml
Final wt. ~~32.34~~ 31.34 grams [initials] 6/16/95
Initial wt. 25.19 grams
Net wt ~~6.35~~ grams
6.35 [initials] 6/16/95

[initials] 5-9-95

C-202 '75-AUG-026 Riser # 7 EAST 05-09-95



C-202 95-AUG-026 Riser #7 EAST 05-09-95

10

CHAIN-OF-CUSTODY RECORD FOR AUGER SAMPLING

COPY

(1) Shipment Number 200W08TE (2) Sample Number 95-AUG-27 (3) Supervisor JAMES SICKELS

(4) Tank C-202 (5) Riser 7WEST (6) Cask Serial Number 1008C

Radiation Survey Data:	(7) FIELD	(31) LABORATORY
Over Top Dose Rate	2.5 mR/hr	20.5 mR/hr
Side Dose Rate	2.5 mR/hr	20.5 mR/hr
Bottom Dose Rate	2.5 mR/hr	20.5 mR/hr
Smearable Contamination	220 Dpm/100cm² (Alpha)	220 dpm/100cm² (Alpha)
	2.1K Dpm/100cm² (Beta-Gamma)	2.1K dpm/100cm² (Beta-Gamma)
RCT* (Signature)		

(8) Shipment Description

A. Work Package Number	ES-95-00007/0
B. Cask Seal Number	1033
C. Date and Time Sample Removed from Tank	5-5-95 11:45 AM
D. Expected Liquid Content	10%
E. Expected Solid Content	90%
F. Dose Rate Through Drill String	2.5 mR/hr
G. Expected Sample Length	8"

(9) INFORMATION (Include statement of laboratory tests to be performed.)

24

(10) Field Comments	(32) Laboratory Comments

(11) Point of Origin	(12) Destination	(13) Sender Name (Sign and PRINT)	(14) Date/Time	(15) Sender Comments
C-202	222 S Lab	JAMES SICKELS	5-8-95 10:40	
(17) Relinquished By (Sign and PRINT)	**(18) Received By (Sign and PRINT)**		**(19) Date/Time**	**(20) Receiver Comments**
JAMES SICKELS			5-8-95 10:40	
(21) Relinquished By (Sign and PRINT)	**(22) Received By (Sign and PRINT)**		**(23) Date/Time**	**(24) Receiver Comments**
	N LAPIERS		5-8-95 1100	
(25) Relinquished By (Sign and PRINT)	**(26) Received By (Sign and PRINT)**		**(27) Date/Time**	**(28) Receiver Comments**

(16) Seal Intact Upon Release?	(29) Seal Intact Upon Receipt?	(30) Seal Data Consistent with this Record?		
		Shipment No.	Cask Seal No.	Sample No.
☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Waste Tank Sampling, F7-12 Goldenrod - Tank Farm Operations, T4-01 BC-6001-326 (03/94)

C-202 95-AUG-027 Riser # 7 WEST 05-08-95

WHC-SD-WM-DP-132, REV. 0

PC ANDREW KNOX
LABCORE # S757000701
WORKLIST # 1365

TAPE #1-A C-FARM
HOT CELL TEMPERATURE 79.3°F HUMIDITY 37%

EXTRUSION DESCRIPTION:

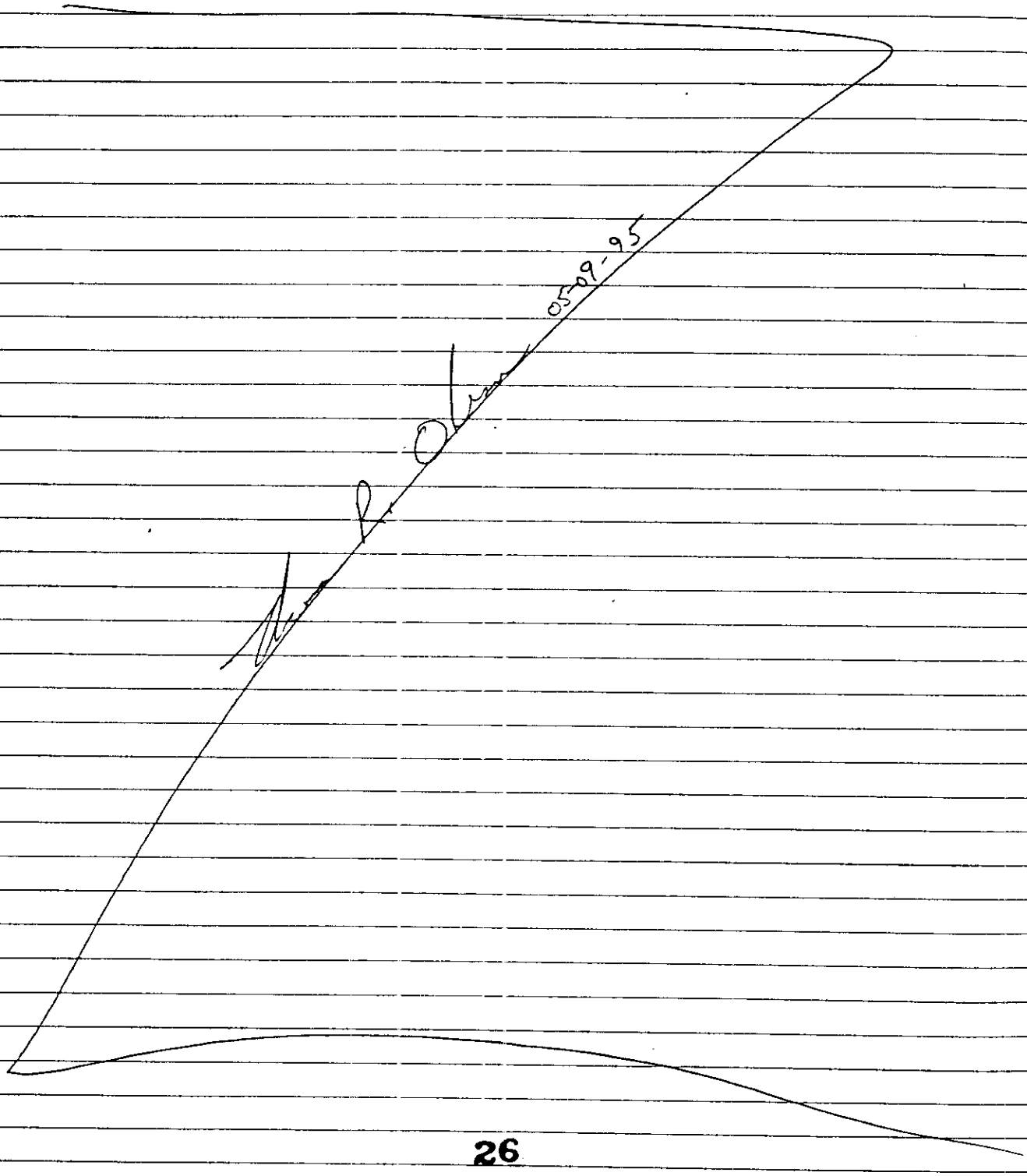
SAMPLE WAS BROWN WITH YELLOW SOLIDS MIXED.
SMALL AMOUNT OF SOLIDS POURED OUT OF TIP OF AUGER
BEFORE TIP WAS REMOVED.
SOLIDS VERY DRY.
NO SAMPLE ADHERED TO AUGER.
COLLECTED SAMPLE INTO (ONE) 20ml VIAL.

SAMPLE DESCRIPTION (SOLIDS)
C-202 95-AUG-027 RISER #7 WEST

SOLIDS:
VIAL # 6978
VIAL SIZE 20ml
FINAL WT. 29.51 grams
INITIAL WT. 27.32 grams
NET WT. 2.19 grams

5-9-95

C-202 95-AUG-027 Riser # 7 west 05-09-95



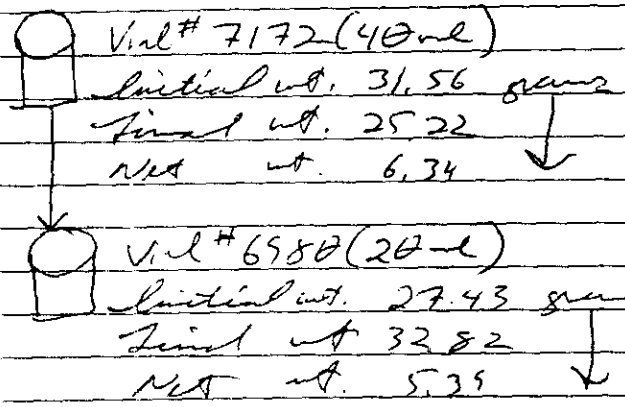
C-202 95-AUG-027 Riser # 7 WEST 05-09-95
(PHOTOGRAPHY)

C-202 95-AUG-027

May 9, 1995

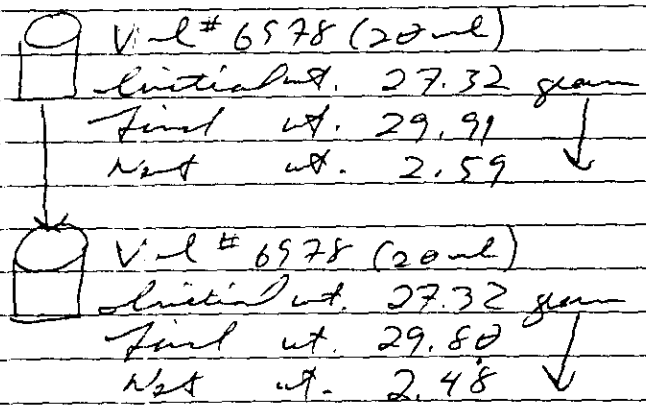
HOMOGENIZATION & SUBSAMPLING

C202 95 AUG-026 Riser 7 east



* Note: Vial # 7172 was used in process.
- Subsampled from Vial # 7172 into Vial # 6580, Collected 5.39 grams. Note: Pulverized sample with mortar and pestal; Rock was found in sample and disposed of.
- No Archive sample collected, Vial # 6580 submitted to Labs.

C202 95 AUG-027 Riser 7 west



- Pulverized sample in parent Jar, Parent Jar to be submitted to Labs' DSC, TGA, AI, Fusion
- Note: No Archive sample collected.

Arthur B. Bond
5-9-95

SAMPLE HANDLING

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LABCORE Data Entry Template for Worklist# 1364

Analyst: EC **Instrument:** BA000 **Book #** NA

Method: LO-160-103 Rev/Mod A-7

Worklist Comment: C-202 95-AUG-026 Riser 7 East Extrusion

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	INSTCHK01				EXTRUD01	SOLID	20g	19.99	N/A	
		2	INSTCHK02				EXTRUD01	SOLID	500g	499.98	N/A	
95000070	C-202	3	SAMPLE	S95T000900	0		DLIQVOL1	SOLID	N/A	0		mL
95000070	C-202	4	SAMPLE	S95T000900	0		DLIQWT01	SOLID	N/A	0		g
95000070	C-202	5	SAMPLE	S95T000900	0		EST.G/ML	SOLID	N/A	0		g/mL
95000070	C-202	6	SAMPLE	S95T000900	0		EXTRUD01	SOLID	N/A	Complete		
95000070	C-202	7	SAMPLE	S95T000900	0		LLIQWT01	SOLID	N/A	0		g
95000070	C-202	8	SAMPLE	S95T000900	0		NOTEBOOK	SOLID	N/A	WHC-N-114C		
95000070	C-202	9	SAMPLE	S95T000900	0		SLDVOL01	SOLID	N/A	6		mL
95000070	C-202	10	SAMPLE	S95T000900	0		SLDWT-01	SOLID	N/A	6		g
95000070	C-202	11	SAMPLE	S95T000900	0		ORGVOL01	SOLID	N/A	0		mL

Final page for worklist # 1364

EAC 5-10-95
Analyst Signature **Date**

EAC 5-10-95
Analyst Signature **Date**

Data Entry Comments:

Reviewed by RK Fuller 5/10/95

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 1365

Analyst: EC **Instrument:** BA000 **Book #** NA

Method: LO-160-103 Rev/Mod A-7

Worklist Comment: C-202 95-AUG-27 Riser 7 West Extrusion

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	INSTCHK01				EXTRUD01	SOLID	20g	19.99	N/A	
		2	INSTCHK02				EXTRUD01	SOLID	500g	499.98	N/A	
95000071	C-202	3	SAMPLE	S95T000901	0		DLIQVOL1	SOLID	N/A	0		mL
95000071	C-202	4	SAMPLE	S95T000901	0		DLIQWT01	SOLID	N/A	0		g
95000071	C-202	5	SAMPLE	S95T000901	0		EST.G/ML	SOLID	N/A	0		g/mL
95000071	C-202	6	SAMPLE	S95T000901	0		EXTRUD01	SOLID	N/A	Complete		
95000071	C-202	7	SAMPLE	S95T000901	0		LLIQWT01	SOLID	N/A	0		g
95000071	C-202	8	SAMPLE	S95T000901	0		NOTEBOOK	SOLID	N/A	WHC-N-1140		
95000071	C-202	9	SAMPLE	S95T000901	0		SLDVOL01	SOLID	N/A	2		mL
95000071	C-202	10	SAMPLE	S95T000901	0		SLDWT-01	SOLID	N/A	2		g
95000071	C-202	11	SAMPLE	S95T000901	0		ORGVOL01	SOLID	N/A	6		mL

Final page for worklist # 1365

EAC 5-10-95 EC 5-10-95
Analyst Signature **Date**

EAC 5-10-95 EC 5-10-95
Analyst Signature **Date**

Data Entry Comments:

Reviewed by Fulton RK 5/11/95

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

SAMPLE PREPARATION

LABCORE Data Entry Template for Worklist# 1380

Analyst: JAM **Instrument:** FUS01 AL110606 **Book #** N/A

Method: LA-549-141 Rev/Mod C-3

Worklist Comment: C-202 FUSION - 902->903, 904->905; USE 0.25G->250ML ONLY

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST-------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK-PREP				FUSION01	SOLID	250 ml		N/A	g/L
95000070	C-202	2	SAMPLE	S95T000903	0	F	FUSION01	SOLID	N/A	1.0768		g/L
		.2692g → 250 ml										
95000070	C-202	3	DUP	S95T000903	0	F	FUSION01	SOLID	1.0768	1.0604	N/A	g/L
		.2651g → 250 ml										
95000071	C-202	4	SAMPLE	S95T000905	0	F	FUSION01	SOLID	N/A	.9816		g/L
		.2454g → 250 ml										
95000071	C-202	5	DUP	S95T000905	0	F	FUSION01	SOLID	.9816	1.0256	N/A	g/L
		.2564g → 250 ml										

Final page for worklist # 1380

JAMurphy 5-26-95
Analyst Signature **Date**
DATA ENTERED

Bertram D Griffin II 6-7-95
Analyst Signature **Date**

Data Entry Comments:
20ml HCl Samples & dups have 2% solids. Solids are a rust brown. Clear liquid. BDII 6-7-95
Dose rate was 400mrad/hr HPT was Sig Yandoe.

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

PHYSICAL ANALYSES

LABCORE Data Entry Template for Worklist# 1377

Analyst: ADP **Instrument:** DSC0 1 **Book #** 12N14-A

Method: LA-514-113 Rev/Mod B-1

Worklist Comment: Please run C-202 DSC under N2. bdv

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-01	SOLID	28.45	28.8	N/A	Joules/g
95000070	C-202	2	SAMPLE	S95T000902	0		DSC-01	SOLID	N/A	>511.2		Joules/g
95000070	C-202	3	DUP	S95T000902	0		DSC-01	SOLID	>511.2	>178.7	N/A	Joules/g
95000070	C-202	4	TRIPL	S95T000902	0		DSC-01	SOLID	>511.2	>303.9	N/A	Joules/g
95000071	C-202	5	SAMPLE	S95T000904	0		DSC-01	SOLID	N/A	>581.8		Joules/g
95000071	C-202	6	DUP	S95T000904	0		DSC-01	SOLID	>581.8	>212.0	N/A	Joules/g
		7	STD				DSC-01	SOLID	28.45	28.5	N/A	Joules/g
95000071	C-202	8	TRIPL	S95T000904	0		DSC-01	SOLID	>581.8	~~296.3~~ 296.1	N/A	Joules/g

6/15/95 BDV

Final page for worklist # 1377

See attached for Signatures
Analyst Signature **Date**

Analyst Signature 5-24-95 **Date**

Verified by Blandina Valenzuela 5/25/95

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 1377

Analyst: ADP **Instrument:** DSC0 **Book #** 12N14A

Method: LA-514-113 Rev/Mod B1

Worklist Comment: Please run C-202 DSC under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				DSC-01	SOLID			N/A	Joules/g
95000070	C-202	2 SAMPLE	S95T000902	0		DSC-01	SOLID	N/A			Joules/g
95000070	C-202	3 DUP	S95T000902	0		DSC-01	SOLID			N/A	Joules/g
95000071	C-202	4 SAMPLE	S95T000904	0		DSC-01	SOLID	N/A			Joules/g
95000071	C-202	5 DUP	S95T000904	0		DSC-01	SOLID			N/A	Joules/g

Final page for worklist # 1377

5-22-95

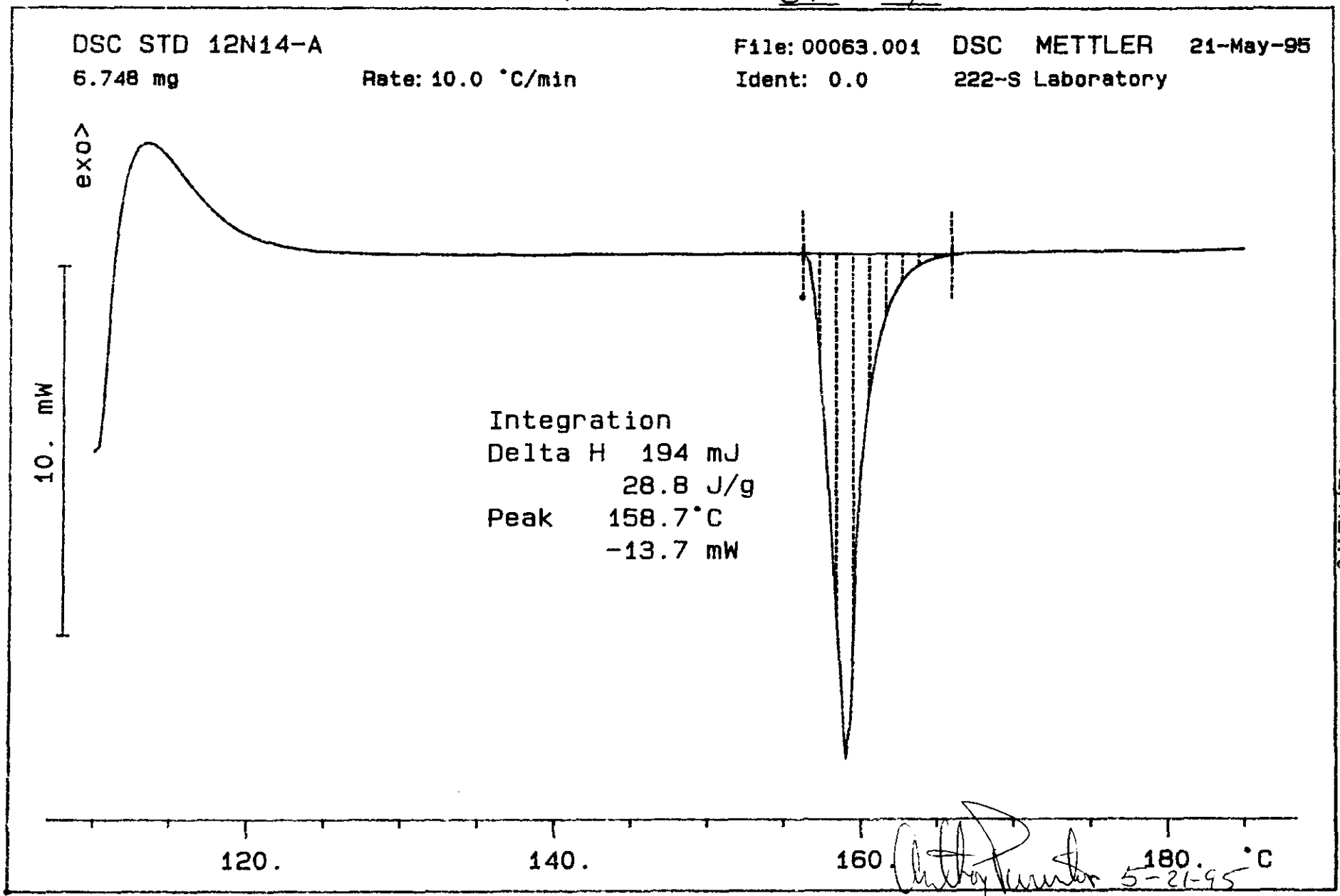
Analyst Signature **Date**

Analyst Signature **Date**

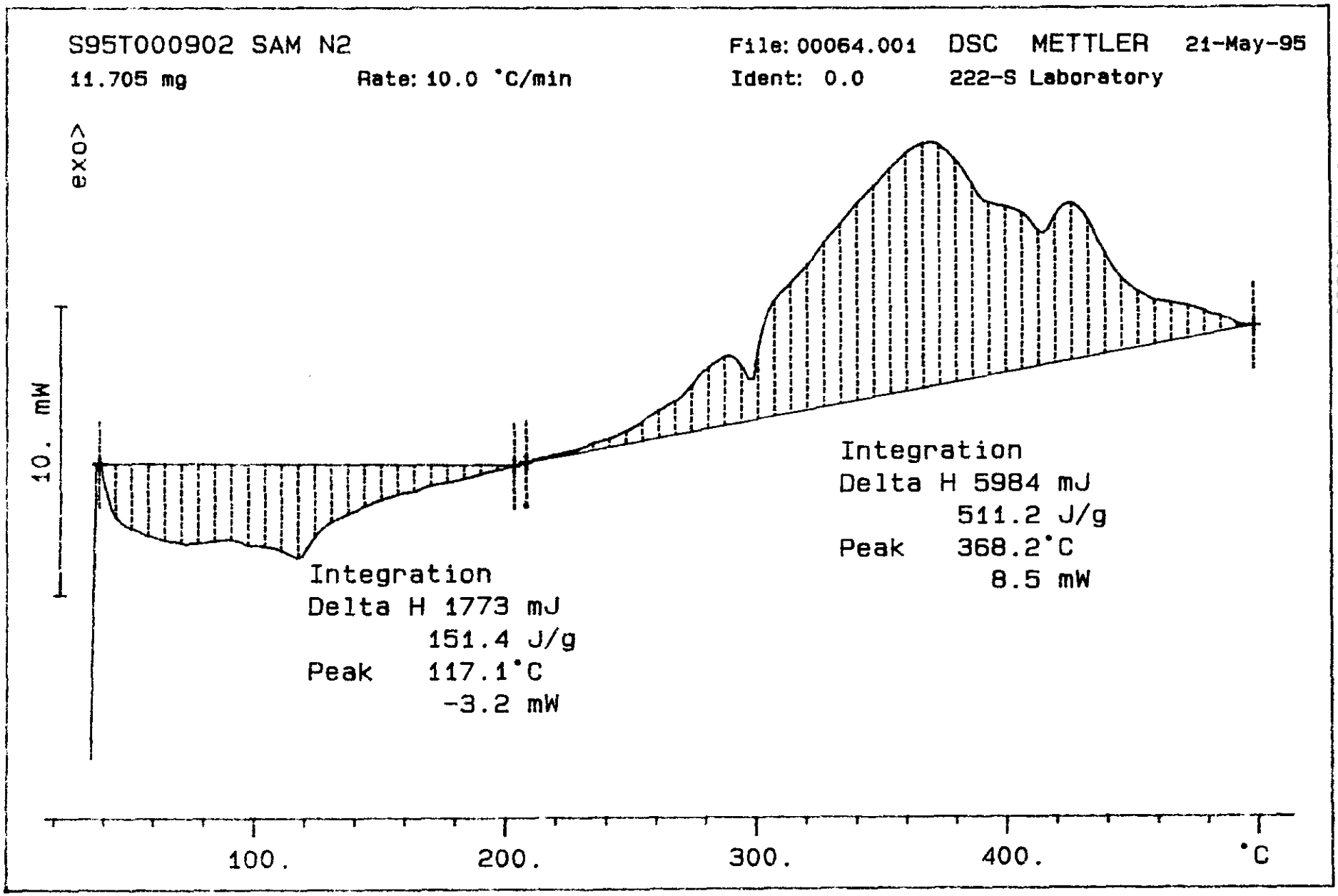
Data Entry Comments:

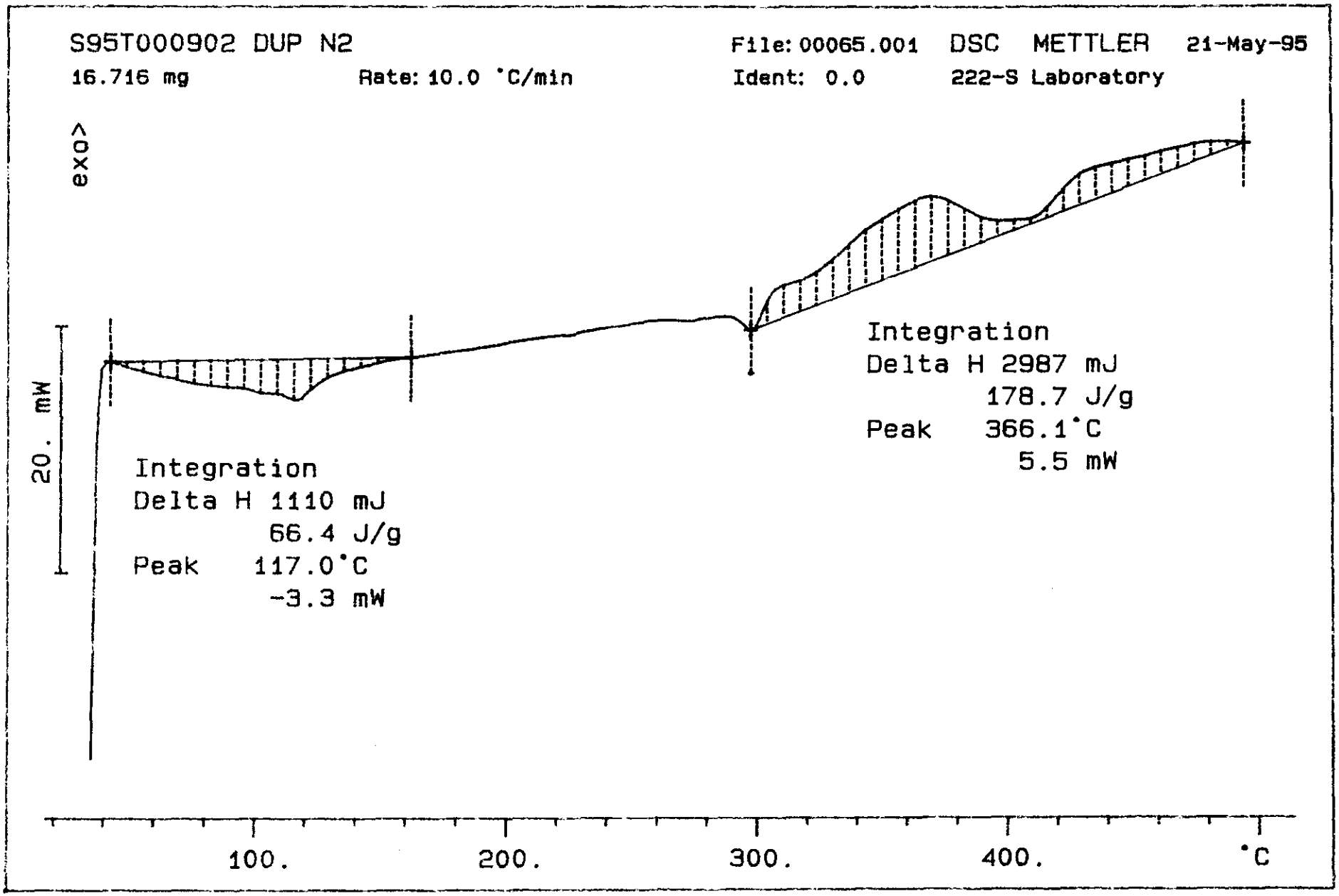
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

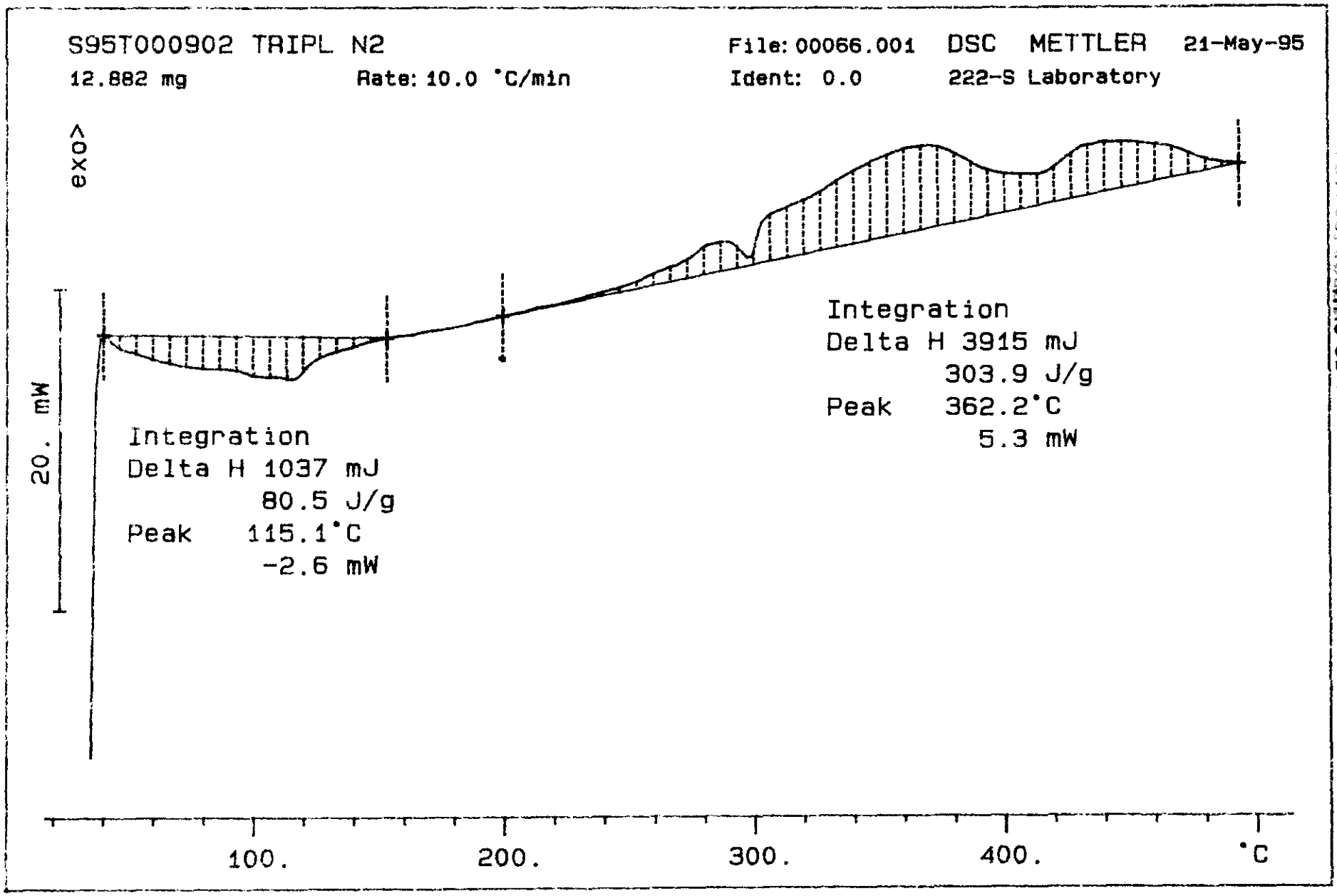
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 37 TO 44.

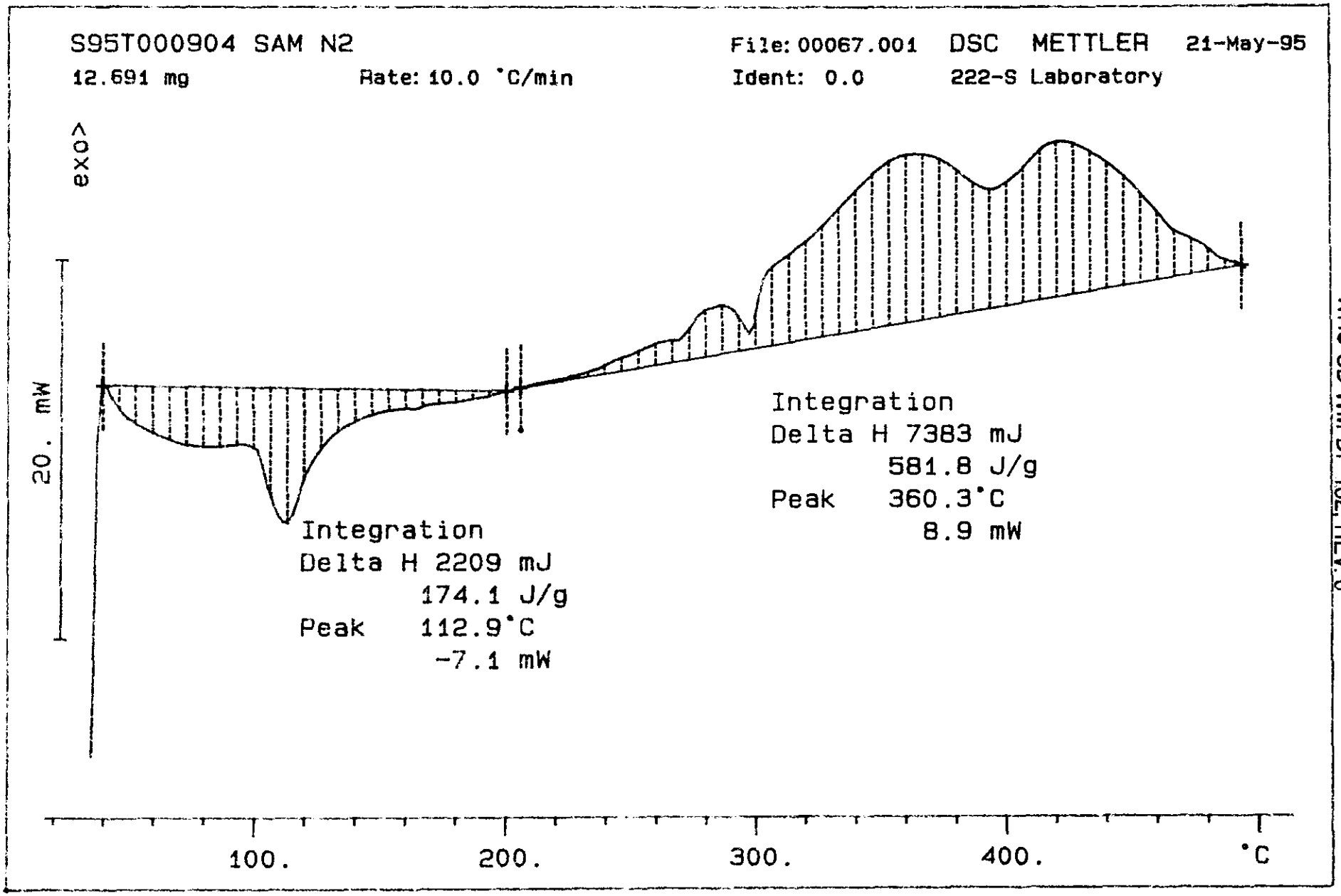


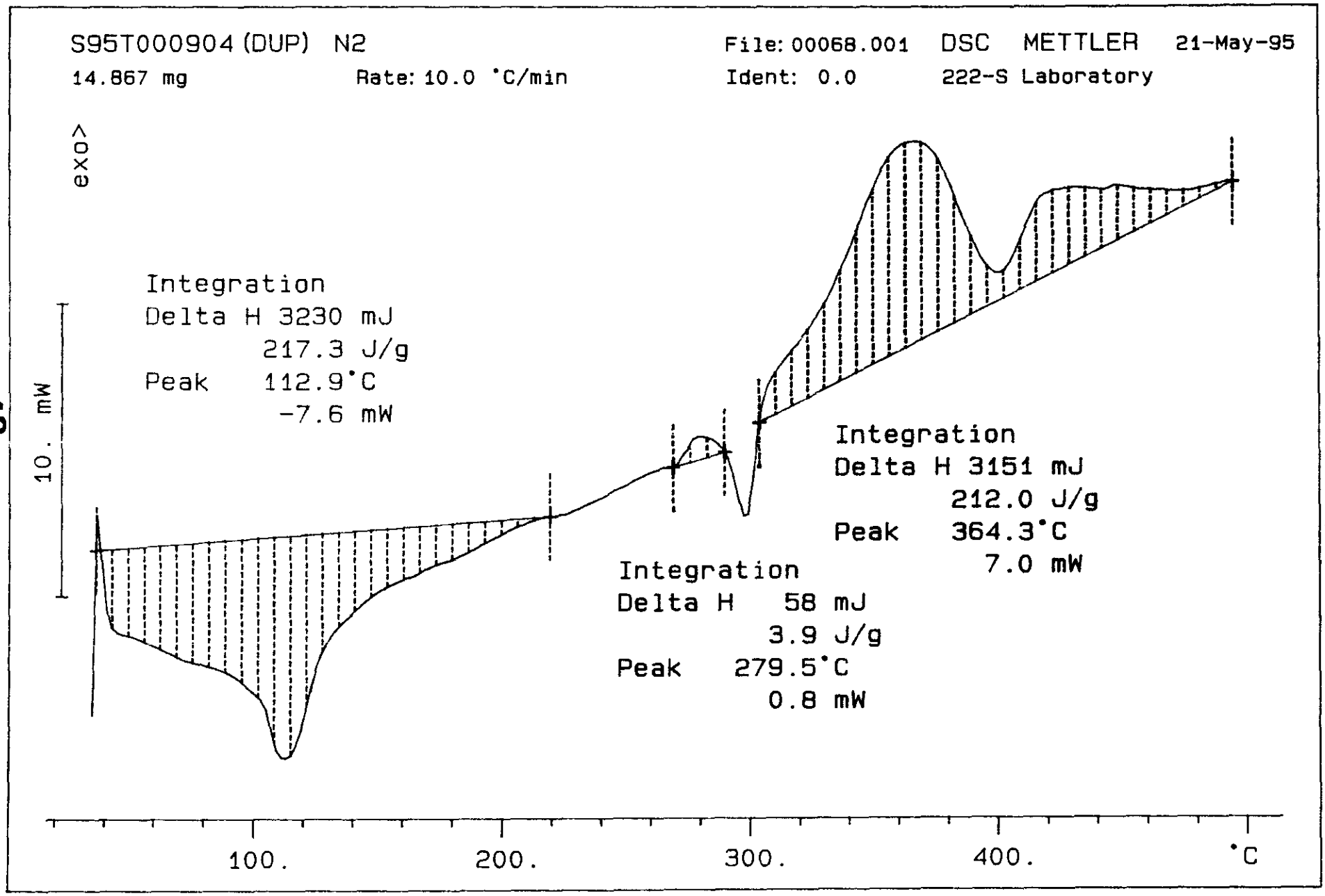
Cathy Turner 5-21-95

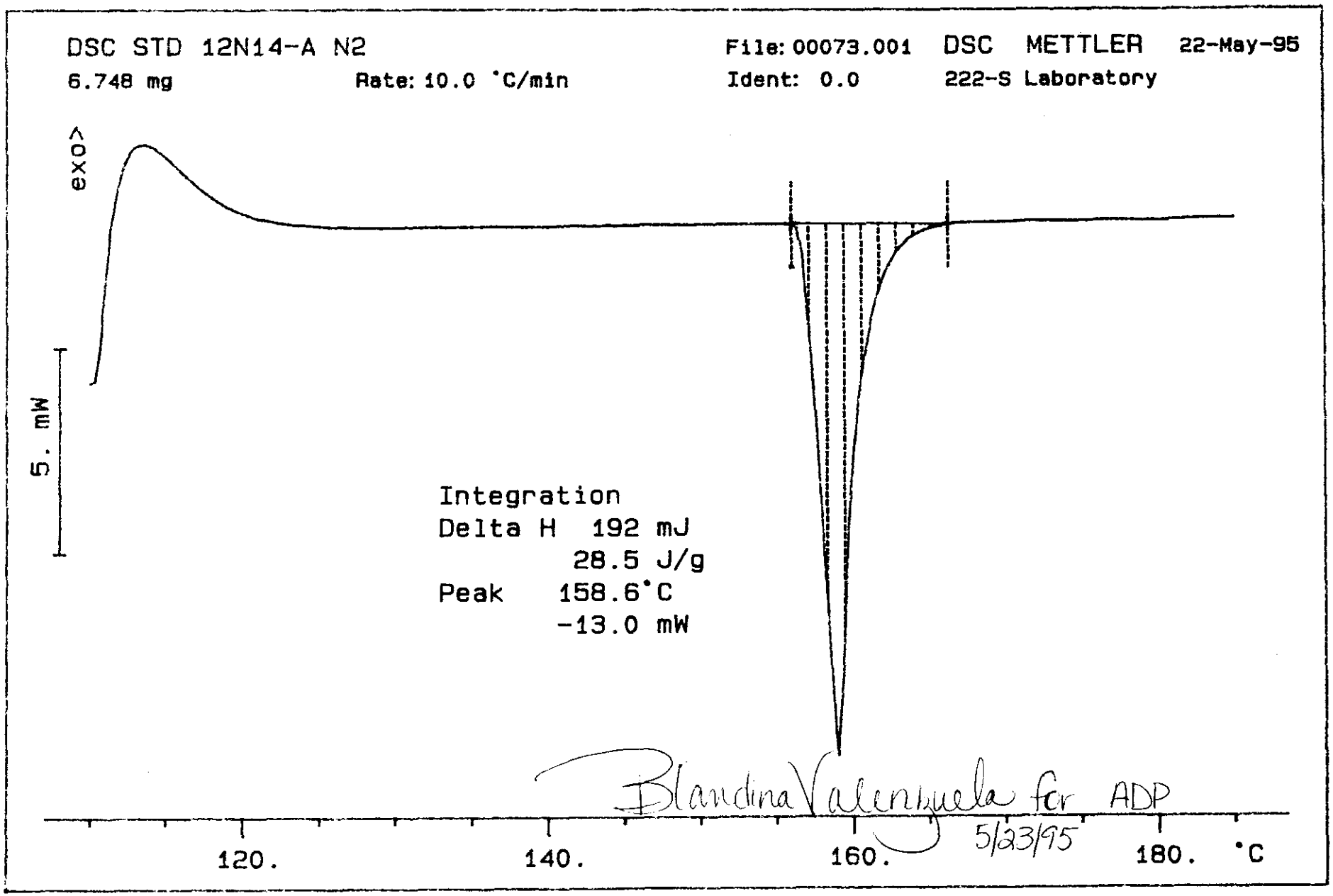


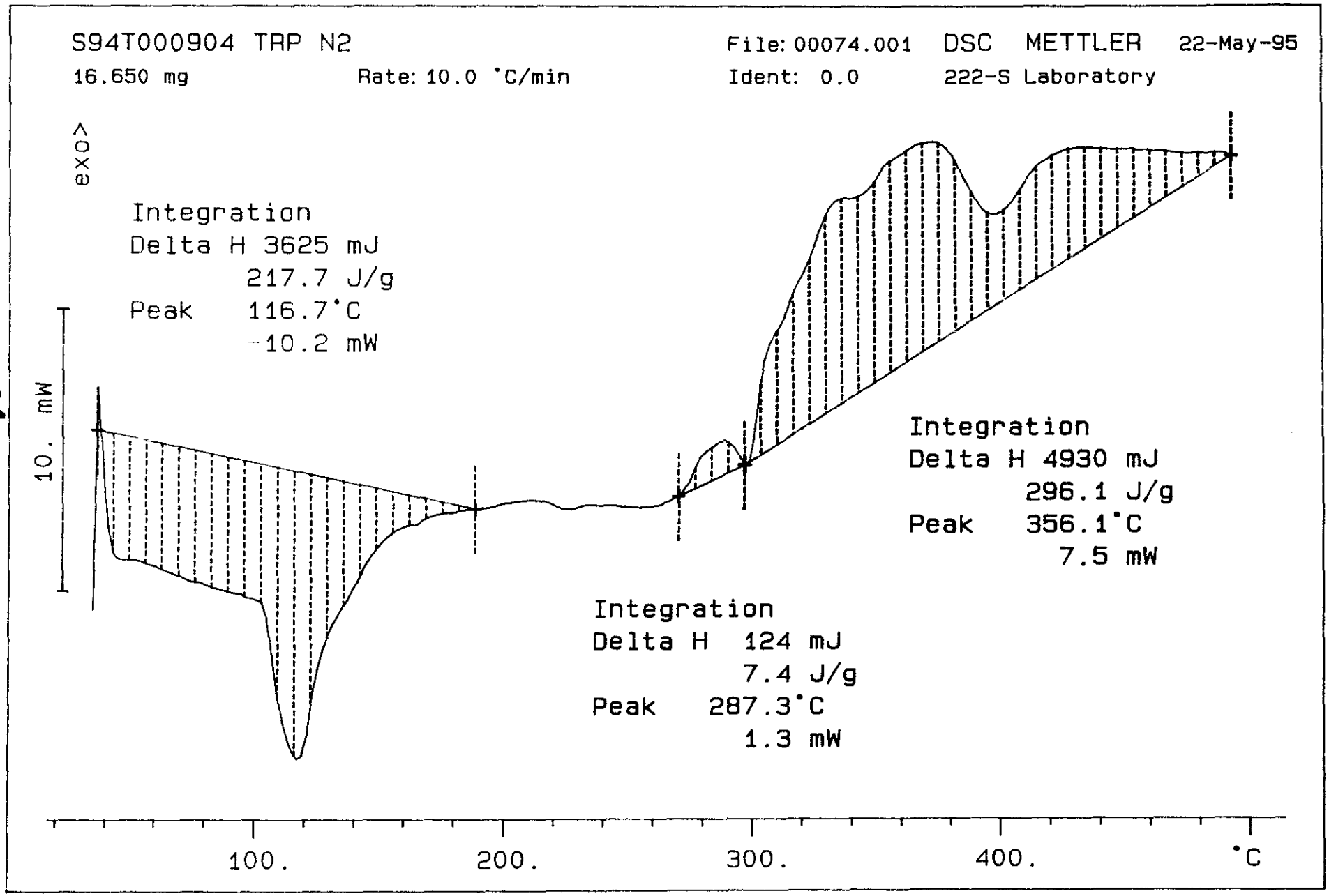

S95T000902 DUP N2
16.716 mg
Rate: 10.0 °C/min
File: 00065.001 DSC METTLER 21-May-95
Ident: 0.0 222-S Laboratory
exo>
20. mW
Integration
Delta H 1110 mJ
66.4 J/g
Peak 117.0°C
-3.3 mW
Integration
Delta H 2987 mJ
178.7 J/g
Peak 366.1°C
5.5 mW
100.
200.
300.
400.
°C




S95T000904 SAM N2
12.691 mg
Rate: 10.0 °C/min
File: 00067.001
Ident: 0.0
DSC METTLER
222-S Laboratory
21-May-95
exo>
20. mW
Integration
Delta H 2209 mJ
174.1 J/g
Peak 112.9°C
-7.1 mW
Integration
Delta H 7383 mJ
581.8 J/g
Peak 360.3°C
8.9 mW
100.
200.
300.
400.
°C




DSC STD 12N14-A N2
6.748 mg
Rate: 10.0 °C/min
File: 00073.001
Ident: 0.0
DSC METTLER
222-S Laboratory
22-May-95
exo>
5. mW
Integration
Delta H 192 mJ
28.5 J/g
Peak 158.6°C
-13.0 mW
120.
140.
160.
180.
°C
Blandina Valenzuela for ADP
5/23/95



LABCORE Data Entry Template for Worklist# 1517

Analyst: BDV **Instrument:** DSC0 1 **Book #** —

Method: LA-514-113 Rev/Mod —

Worklist Comment: Calculated dry DSC for C-202. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
95000070	C-202	1 SAMPLE	S95T000902	0		DSC-02	SOLID	N/A	>548		Joules/g Dry
95000070	C-202	2 DUP	S95T000902	0		DSC-02	SOLID	>548	>192	N/A	Joules/g Dry
95000070	C-202	3 TRIPL	S95T000902	0		DSC-02	SOLID	>548	>326	N/A	Joules/g Dry
95000071	C-202	4 SAMPLE	S95T000904	0		DSC-02	SOLID	N/A	>613		Joules/g Dry
95000071	C-202	5 DUP	S95T000904	0		DSC-02	SOLID	>613	>223	N/A	Joules/g Dry
95000071	C-202	6 TRIPL	S95T000904	0		DSC-02	SOLID	>613	>312	N/A	Joules/g Dry

Data entered + verified by

Final page for worklist # 1517

Blandina Valenzuela 6/13/95
Analyst Signature **Date**

Analyst Signature **Date**

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

C-202

CALCULATED DRY DSC			
SAMPLE NO.	DSC RESULT (J/g)	TGA RESULT (% water)	DRY DSC RESULT
595T000902	> 511.2	6.73	> 548
902D	> 178.7	6.73	> 192
902T	> 303.9	6.73	> 326
904	> 581.8	5.14	> 613
904D	> 212.0	5.14	> 223
904T	> 296.1	5.14	> 312

LABCORE Data Entry Template for Worklist# 1373

Analyst: SAF **Instrument:** TGA0 1 **Book #** 42N8-17

Method: LA-560-112 Rev/Mod A-2

Worklist Comment: Please run C-202 TGA under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				TGA-01	SOLID	59.19	58.78	N/A	%
95000071	C-202	2 SAMPLE	S95T000904	0		TGA-01	SOLID	N/A	6.96		%
95000071	C-202	3 DUP	S95T000904	0		TGA-01	SOLID	6.96	6.49	N/A	%
95000070	C-202	4 SAMPLE	S95T000902	0		TGA-01	SOLID	N/A	5.39		%
95000070	C-202	5 DUP	S95T000902	0		TGA-01	SOLID	5.39	4.88	N/A	%

Final page for worklist # 1373

Susie M. Fulton 5-23-95
Analyst Signature **Date**

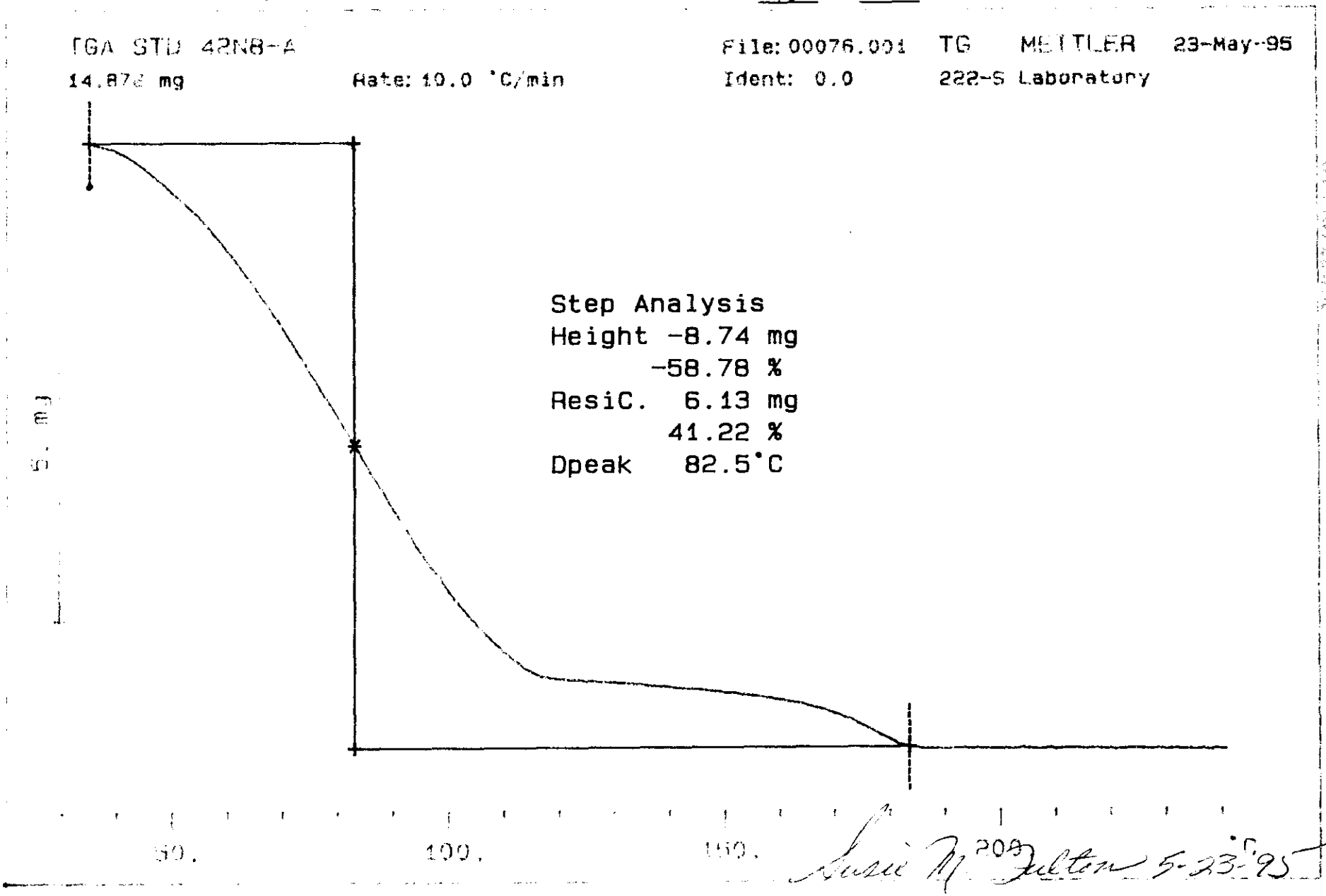
Analyst Signature 5-24-95 **Date**

Verified by Blandina Valenzuela 5/25/95

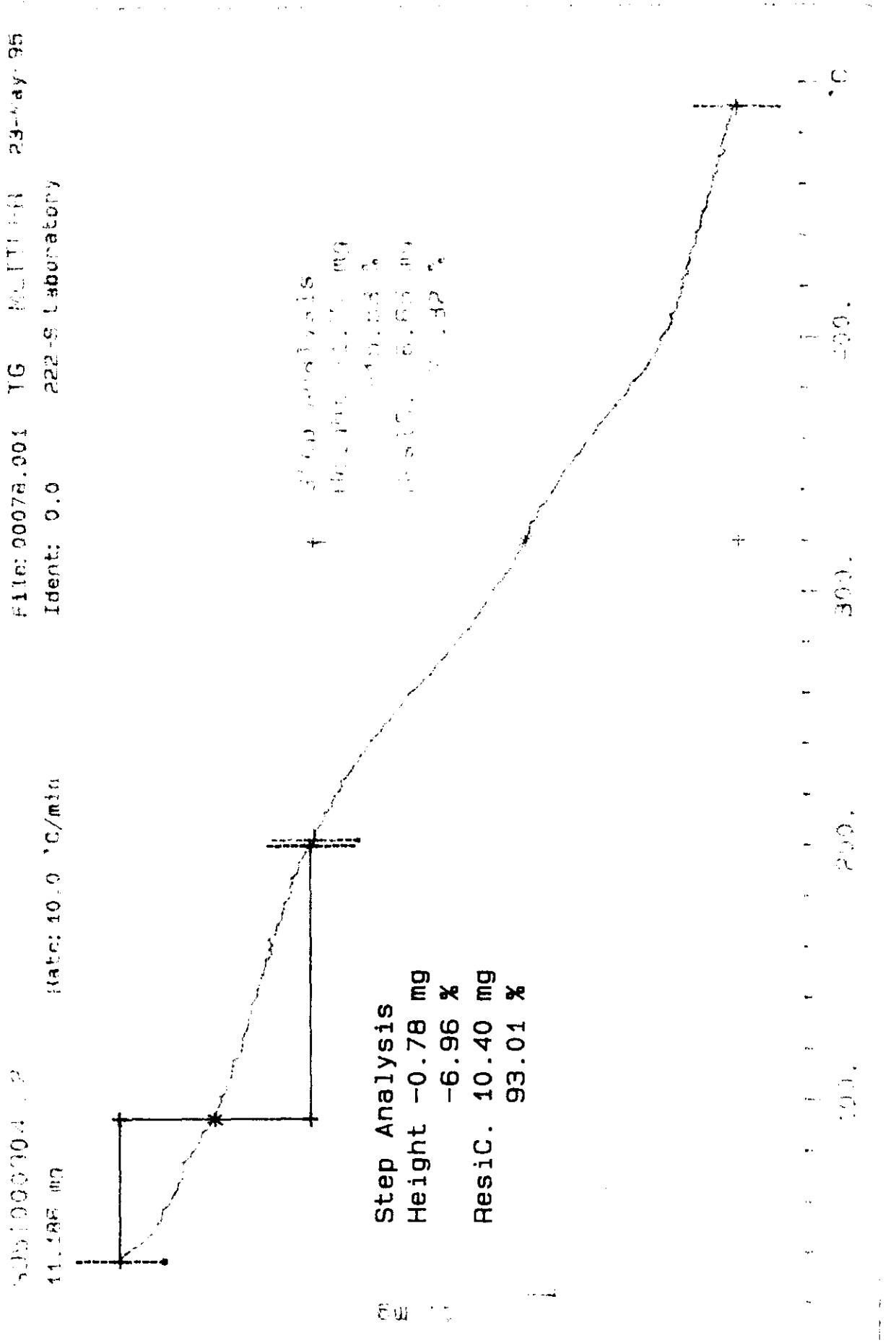
Data Entry Comments:

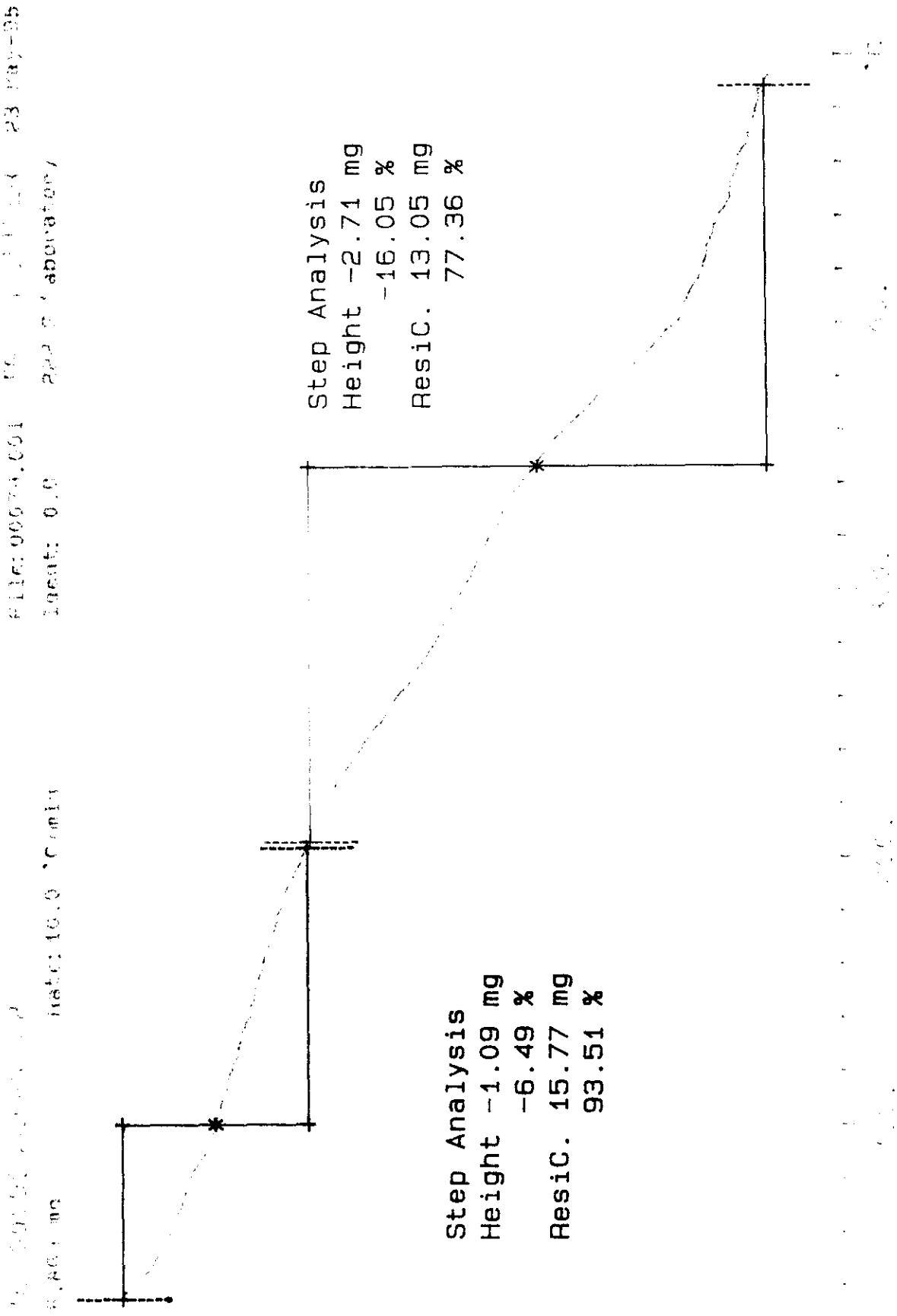
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

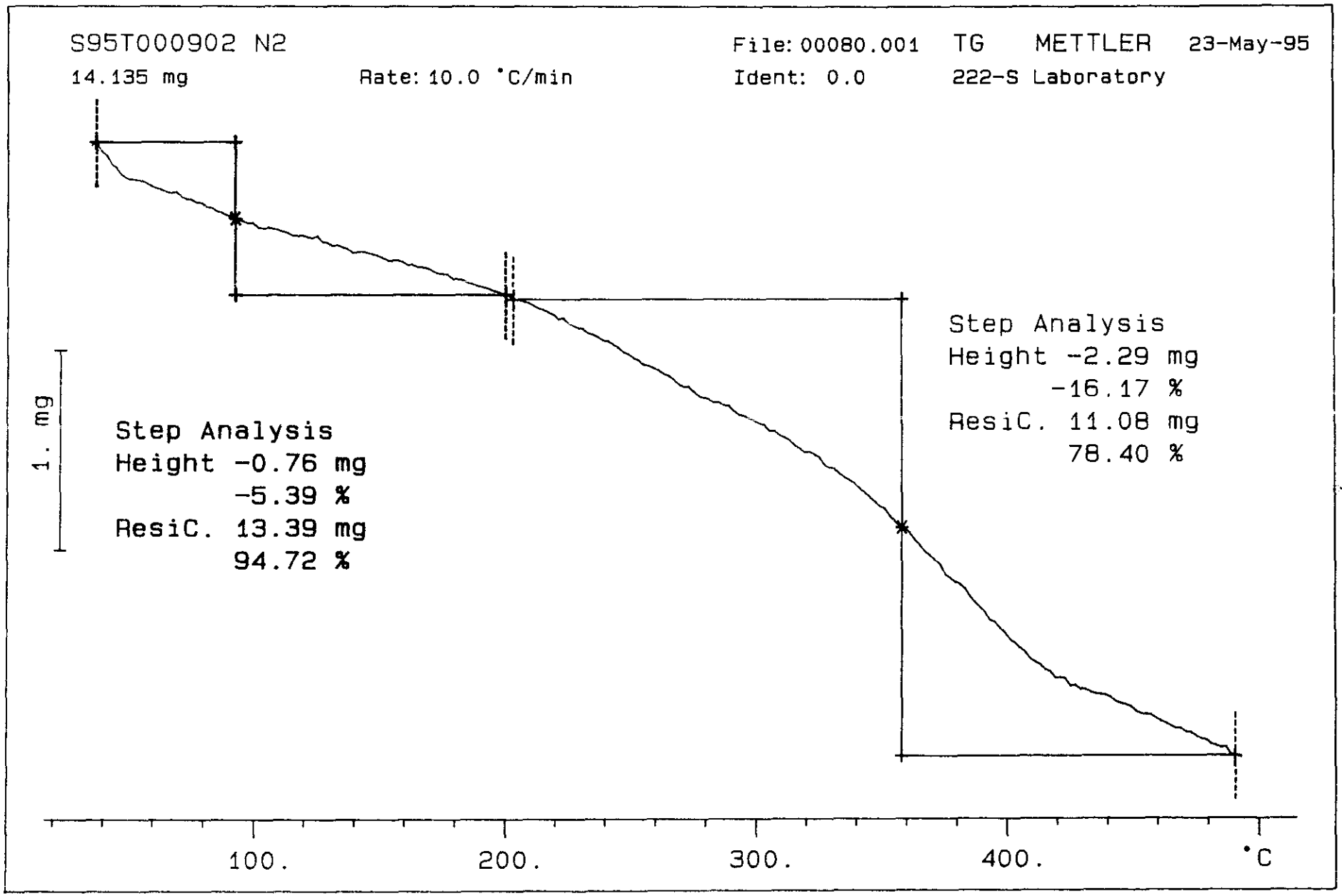
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 48 TO 52.

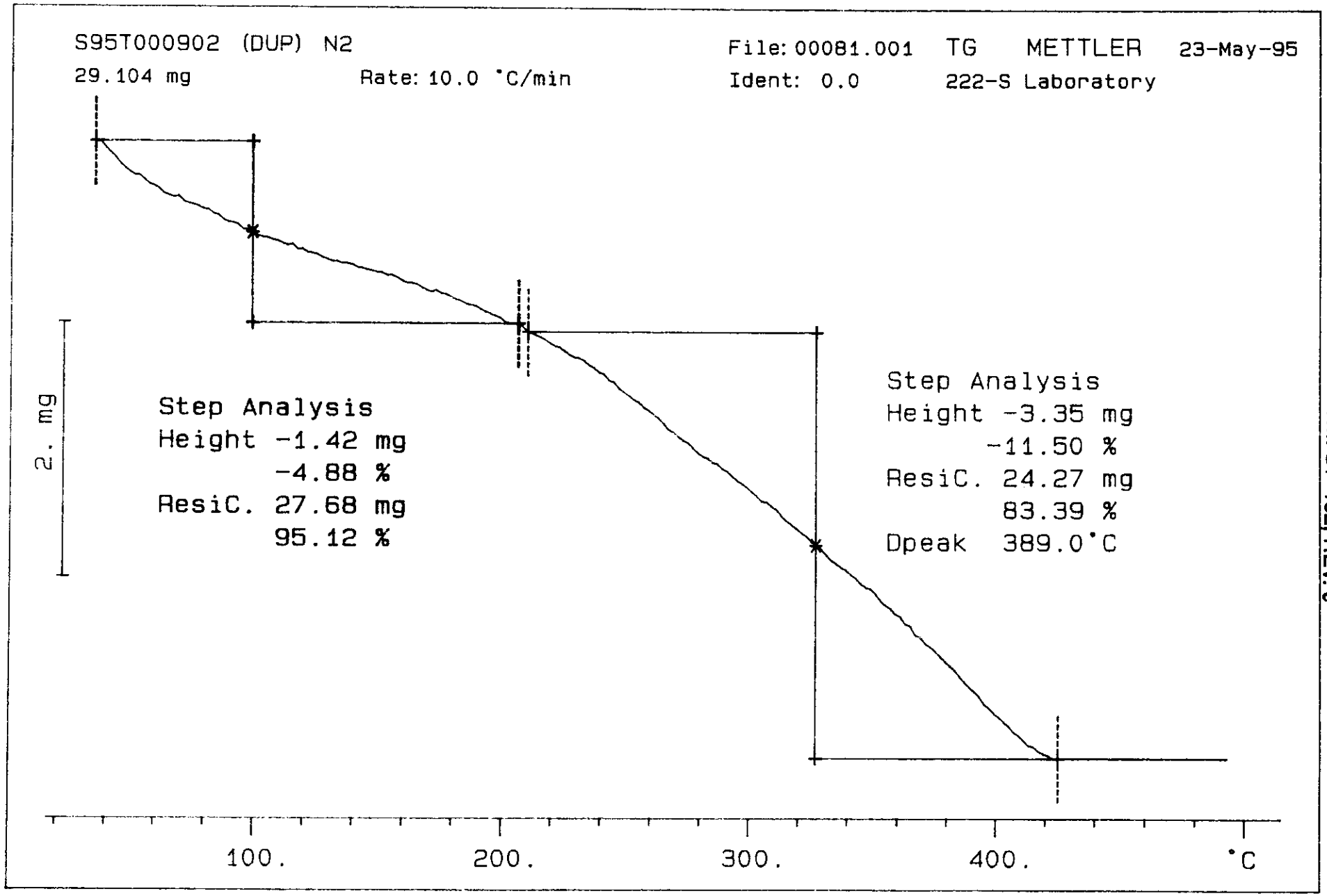


Susie M. Fulton 5-23-95


File: 0007a.001 TG
Ident: 0.0
222-S Laboratory
Rate: 10.0 °C/min
Step Analysis
Height -0.78 mg
-6.96 %
ResiC. 10.40 mg
93.01 %
300.
200.
°C


Step Analysis
Height -2.71 mg
-16.05 %
ResiC. 13.05 mg
77.36 %
Step Analysis
Height -1.09 mg
-6.49 %
ResiC. 15.77 mg
93.51 %


S95T000902 N2
14.135 mg
Rate: 10.0 °C/min
File: 00080.001
Ident: 0.0
TG METTLER 23-May-95
222-S Laboratory
1. mg
Step Analysis
Height -0.76 mg
-5.39 %
ResiC. 13.39 mg
94.72 %
Step Analysis
Height -2.29 mg
-16.17 %
ResiC. 11.08 mg
78.40 %
100.
200.
300.
400.
°C



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RADIOCHEMICAL ANALYSES

LABCORE Data Entry Template for Worklist# 1546

Analyst: AKL **Instrument:** AB00 15 **Book #** 115852

Method: LA-508-101 Rev/Mod D-2

Worklist Comment: Determine sample size using Ludlum. Use .100 mL A-SPK. SLF

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
		1	STD				@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error
		2	BLNK-PREP				@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
		2	BLNK-PREP				@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error
		3	BLNK/BKG	.59			@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000070	C-202	4	SAMPLE	S95T000903	0	F	@ALPHA01 ALPHA01	SOLID	N/A			uCi/g
95000070	C-202	4	SAMPLE	S95T000903	0	F	@ALPHA01 ALPHA01E	SOLID	N/A			% Ct. Error
95000070	C-202	5	DUP	S95T000903	0	F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000070	C-202	5	DUP	S95T000903	0	F	@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error
95000070	C-202	6	SPK	S95T000903	0	F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000071	C-202	7	SAMPLE	S95T000905	0	F	@ALPHA01 ALPHA01	SOLID	N/A			uCi/g
95000071	C-202	7	SAMPLE	S95T000905	0	F	@ALPHA01 ALPHA01E	SOLID	N/A			% Ct. Error
95000071	C-202	8	DUP	S95T000905	0	F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000071	C-202	8	DUP	S95T000905	0	F	@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error
95000071	C-202	9	SPK	S95T000905	0	F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g

Final page for worklist # 1546

A Lewis 6-12-95 Steve Ludlum 6-14-95

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 1546

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
Analyst Signature		Date				Analyst Signature			Date	

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

AT : LA-508-101 (D-2)

BATCH / WORK-LIST DATA INPUT	Standard	Blank	Sample 1	Duplicate 1	Sample 2	Duplicate 2	Sample 3	Spike 1	Spike 2	Spike Dup 1	End Std
Work List #	1546	1546	1546	1546	1546	1546	1546	1546	1546	1546	1546
AT or TB	AT	AT	AT	AT	AT	AT	AT	AT	AT	AT	AT
Sample #	WRKLST#1546	S95T903	S95T903	S95T903	S95T905	S95T905		S95T903	S95T905	S95T903	
Analyst (initials & last name)	AK LEWIS	AK LEWIS	AK LEWIS	AK LEWIS	AK LEWIS	AK LEWIS	AK LEWIS	AK LEWIS	AK LEWIS	AK LEWIS	AK LEWIS
Date (m/d/y)	06/12/95	06/12/95	06/12/95	06/12/95	06/12/95	06/12/95	06/12/95	06/12/95	06/12/95	06/12/95	06/12/95
Time (h:m)	12:15 PM	12:15 PM	12:15 PM	12:15 PM	12:15 PM	12:15 PM	12:15 PM	12:15 PM	12:15 PM	12:15 PM	12:15 PM
Standard Book Number	115B52	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	115B52
Detecter #	15	15	15	15	15	15	15	15	15	15	15
Dish Size (1, 2, or 5)	2	2	2	2	2	2	2	2	2	2	2
Matrix (LIQUID or SOLID)	LIQUID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	LIQUID
Sample Volume in mL	10.000	2.000	2.000	2.000	2.000	2.000		2.000	2.000		
Dilution Factor	1	101	101	101	101	101		101	101		
Digest Factor (DDF for Liquids) (D g/L for Solids)	1	1.0768	1.0768	1.0604	0.9816	1.0256		1.0768	0.9816		
Gross Counts	4007	10	2611	2793	3274	2629		58497	53027		
Replicate Gross Counts	3897	6	2805	2510	3003	2815		52656	55673		
Time Counted in minutes	30	30	30	30	30	30		30	30		
Background in cpm	0.3	0.3	0.3	0.3	0.3	0.3		0.3	0.3		
Spike Volume in mL	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.1	0.1		N/A
Spike Dilution Factor	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	1		N/A
Spike Book #	N/A	N/A	N/A	N/A	N/A	N/A	N/A	94B43	94B43		N/A
Spike Value in µCi/L (Decay Corrected)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.6397E+01	3.6397E+01	ERR	N/A

RETURN TO SELECTION MENU

PRINT DATA INPUT

Form Completed By:	**Signature:** Sharon L Lyle	**Date:**	13-Jun-95
Chemist Approval:	**Signature:**	**Date:**	6/13/95

508101WB Revision 1.0

AT : LA-508-101 (D-2 STANDARD

Type			STANDARD	REPLICATE
STANDARD	DETECTOR NUMBER		15	15
Work List	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
1546	GROSS COUNTS	(GC)	4007	3897
AT or TB ?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.3	0.3
Test Code	SAMPLE SIZE in mL	(SS)	10.000	10.000
@AB-01	DILUTION FACTOR	(DF)	1	1
Matrix	STANDARD BOOK NUMBER		115B52	115B52
LIQUID	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
Sample #	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		133.267	129.600
WRKLST#1546	Concentration in µCi/L	=	2.52E-02	
Instrument Code	Replicate Concentration in µCi/L	=	2.45E-02	
WB26872	AVERAGE CONCENTRATION in µCi/L	=	2.4876E-02	
Analyst				
AK LEWIS	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF / (EFF * SS * 2220000dpm/µCi)			
06/12/95	ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L			
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
12:15 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

ALPHA TOTAL CONCENTRATION in µCi/mL	=	2.49E-05	DETECTION LEVEL
RELATIVE COUNTING ERROR	=	3.2%	1.05E-07 µCi/mL

Data Entry by:	Shawn L Wolfe (signature)	Date:	06/13/95
Approved by:	(signature)	Date:	6/13/95

Form 508101WB Rev. 1.0 Page 1 of 1

AT : LA-508-101 (D-2) SOLIDS

			BLANK	REPLICATE
Type	DETECTOR NUMBER		15	15
BLANK	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	10	6
1546	COUNT TIME in MINUTES	(CT)	30	30
AT or TSY	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE SIZE in mL	(SS)	2.000	2.000
Test Code	DILUTION FACTOR	(DF)	101	101
@AB-01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.0768	1.0768
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.273	0.233
Sample #	Blank Concentration in µCi/g	<	2.42E-02	
S95T903	Replicate Concentration in µCi/g	<	2.07E-02	
Instrument Code				
WB26872	Maximum Concentration in µCi/g	<	2.4238E-02	
Analyst				
AK LEWIS	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
06/12/95				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
12:15 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/g	(Maximum)	=	< 2.42E-02	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.					4.95E-02 µCi/g
RELATIVE COUNTING ERROR			=	500.0%	

Data Entry by:	[signature]	Date:	06/13/95
Approved by:	[signature]	Date:	6/13/95

Form WB Rev. 1.0 508-1nn_WB & 548-10n_WB Page 1 of 1

AT : LA-508-101 (D-2) SOLIDS

Type			SAMPLE 1	REPLICATE
SAMPLE 1	DETECTOR NUMBER		15	15
Work List	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
1546	GROSS COUNTS	(GC)	2611	2805
AT or TR ?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.3	0.3
Test Code	SAMPLE SIZE in mL	(SS)	2.000	2.000
@AB-01	DILUTION FACTOR	(DF)	101	101
Matrix	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.0768	1.0768
SOLID	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
Sample #	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		86.733	93.200
S95T903	Blank Concentration in µCi/g		7.70E+00	
Instrument Code	Replicate Concentration in µCi/g		8.27E+00	
WB26872	Average Concentration in µCi/g		7.9856E+00	
Analyst				
AK LEWIS	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
06/12/95				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
12:15 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/g	(Average) =	7.99E+00	DETECTION LEVEL
RELATIVE COUNTING ERROR		=	3.9%	4.95E-02 µCi/g

Data Entry by: Sharon L Light Date: 06/13/95

Approved by: [signature] Date: 6/13/95

Form 508101WB Rev. 1.0

AT : LA-508-101 (D-2) LIQUID/SOLIDS

Type			DUPLICATE 1	REPLICATE
DUPLICATE 1	DETECTOR NUMBER		15	15
Work List	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
1546	GROSS COUNTS	(GC)	2793	2510
AT or TR ?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.3	0.3
Test Code	SAMPLE SIZE in mL	(SS)	2.000	2.000
@AB-01	DILUTION FACTOR	(DF)	101	101
Matrix	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.0604	1.0604
SOLID	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
Sample #	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		92.800	83.367
S95T903	Blank Concentration in µCi/g		8.36E+00	
Instrument ID	Replicate Concentration in µCi/g		7.51E+00	
WB26872	Average Concentration in µCi/g		7.9394E+00	
Analyst				
AK LEWIS	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
06/12/95				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
12:15 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/g (Average)	=	7.94E+00	DETECTION LEVEL
RELATIVE PERCENT DIFFERENCE	(RPD)	=	0.6%	
RELATIVE COUNTING ERROR		=	3.9%	5.02E-02 µCi/g

Data Entry by: [signature] Date: 06/13/95

Approved by: [signature] Date: 6/13/95

Form 508101WB Rev. 1.0

AT : LA-508-101 (D-2) SPIKED SAMPLE

			SPIKE 1	REPLICATE
Type	DETECTOR NUMBER		15	15
SPIKE 1	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	58497	52656
1546	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	2.000	2.000
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
@ab-01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.0768	1.0768
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Sample #	SPIKE BOOK NUMBER		94B43	94B43
S95T903	SPIKE VALUE in µCi/L	(SVal)	3.6397E+01	3.6397E+01
Instrument Code	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.238	0.238
WB26872	SAMPLE + SPIKE µCi/g	(S+S)	1.73E+02	1.56E+02
Analyst	AVERAGE or MAXIMUM µCi/g in SAMPLE		7.9856E+00	
AK LEWIS				
Date				
06/12/95	Rs (Sample Count Rate) = (TC / CT) - BKG			
Time	SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)			
12:15 PM	PERCENT SPIKE RECOVERY = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/SVol)/(DF/SS/Dg/L)))/SVal)*100			

AVG. PERCENT SPIKE RECOVERY	=	91.6%

Data Entry by:	[signature]	Date:	13-Jun-95
Approved by:	[signature]	Date:	6/13/95

Form 508101WB Rev. 1.0 Page 1 of 1

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE 2	REPLICATE
Type	DETECTOR NUMBER		15	15
SAMPLE 2	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	3274	3003
1546	COUNT TIME in MINUTES	(CT)	30	30
AT or TS ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE SIZE in mL	(SS)	2.000	2.000
Test Code	DILUTION FACTOR	(DF)	101	101
@AB-01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	0.9816	0.9816
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		108.833	99.800
Sample #	Blank Concentration in µCi/g		1.06E+01	
S95T905	Replicate Concentration in µCi/g		9.72E+00	
Instrument Code				
WB26872	Average Concentration in µCi/g		1.0157E+01	
Analyst				
AK LEWIS	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
06/12/95				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
12:15 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/g	(Average)	=	1.02E+01	DETECTION LEVEL
					5.43E-02 µCi/g
RELATIVE COUNTING ERROR			=	3.6%	

Data Entry by:	[signature]	Date:	06/13/95
Approved by:	[signature]	Date:	6/13/95

Form 508101WB Rev. 1.0 Page 1 of 1

AT : LA-508-101 (D-2) SOLIDS

Type	DETECTOR NUMBER		DUPLICATE 2	REPLICATE
DUPLICATE 2	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	2629	2815
1546	COUNT TIME in MINUTES	(CT)	30	30
AT or TS ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE SIZE in mL	(SS)	2.000	2.000
Test Code	DILUTION FACTOR	(DF)	101	101
@AB-01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.0256	1.0256
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		87.333	93.533
Sample #	Blank Concentration in µCi/g		8.14E+00	
S95T905	Replicate Concentration in µCi/g		8.72E+00	
Instrument Code				
WB26872	Average Concentration in µCi/g		8.4278E+00	
Analyst				
AK LEWIS	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
06/12/95				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
12:15 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/g (Average)	=	8.43E+00	DETECTION LEVEL
RELATIVE PERCENT DIFFERENCE	(RPD)	=	18.6%	
RELATIVE COUNTING ERROR		=	3.8%	5.19E-02 µCi/g

Data Entry by: [signature] Date: 06/13/95

Approved by: [signature] Date: 6/13/95

Form 508101WB Rev. 1.0

AT : LA-508-101 (D-2) SPIKED SAMPLE

Type			SPIKE 2	REPLICATE
SPIKE 2	DETECTOR NUMBER		15	15
Work List	DISH SIZE 1 , 2 , or 5	(MS)	2	2
1546	TOTAL COUNTS	(TC)	53027	55672
AT or TE ?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.3	0.3
Test Code	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	2.000	2.000
@ab-01	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
Matrix	DIGEST GRAMS of SOLIDS / L	(Dg/L)	0.9816	0.9816
SOLID	SPIKE VOLUME in mL	(SVol)	0.100	0.100
Sample #	SPIKE DILUTION FACTOR	(SDF)	1	1
S95T905	SPIKE BOOK NUMBER		94B43	94B43
Instrument Code	SPIKE VALUE in µCi/L	(SVal)	3.6397E+01	3.6397E+01
WB26872	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.238	0.238
Analyst	SAMPLE + SPIKE µCi/g	(S+S)	1.72E+02	1.81E+02
AK LEWIS	AVERAGE or MAXIMUM µCi/g in SAMPLE		1.0157E+01	
Date				
06/12/95				
Time				
12:15 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)

PERCENT SPIKE RECOVERY = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/SVol)/(DF/SS/Dg/L)))/SVal)*10

AVG. PERCENT SPIKE RECOVERY	=	88.8%

Data Entry by: Shawn A. Fletcher Date: 13-Jun-95

Approved by: [signature] Date: 6/13/95

Form 508101WB Rev. 1.0

DISTRIBUTION SHEET

To Distribution	From Characterization Plans, Coordination and Reports	Page 1 of 2 Date: 06/19/95
Project Title/Work Order WHC-SD-WM-DP-132, Rev. 0, "45-Day Safety Screen Results and Final Report for Tank 241-C-202, Auger Samples 95-AUG-026 and 95-AUG-027"		EDT NO.: EDT-612162 ECN NO.: N/A

Name	MSIN	Text With all Attach	EDT/ECN ONLY
Pacific Northwest Laboratory			
J. R. Gormsen	K7-28		X
S. J. Harris	K7-22	X	
K. L. Silvers	P7-27		X
U.S. Department of Energy, RL			
C. A. Babel	S7-54	X	
Westinghouse Hanford Company			
J. N. Appel	G3-21		X
H. Babad	S7-30	X	
J. H. Baldwin	T6-06	X	
R. J. Cash	S7-15	X	
G. D. Forehand	S7-31		X
C. E. Golberg	H5-49		X
V. W. Hall	H4-21		X
D. C. Hetzer	S6-31		X
L. Jensen	T6-07	X	
G. D. Johnson	S7-15	X	
N. W. Kirch	R2-11	X	
J. G. Kristofzski	T6-06	X	
M. J. Kupfer	H5-49	X	
E. J. Lipke	S7-14		X
N. G. McDuffie	S7-15	X	
J. E. Meacham	S7-15	X	
P. M. Morant	H4-25	X	
B. C. Simpson	R2-12		X
D. A. Turner	S7-15	X	
J. A. Voogd	R4-01		X
Central Files	L8-04	2	
EDMC	H6-08	X	
LTIC	T6-03		X
OSTI	L8-07	2	
TCRC	R2-12	2	
TFIC (Tank Farm Information Center)	R1-20		X

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DISTRIBUTION SHEET

To Distribution	From Characterization Plans, Coordination and Reports	Page 2 of 2 Date: 06/19/95
Project Title/Work Order WHC-SD-WM-DP-132, Rev. 0, "45-Day Safety Screen Results and Final Report for Tank 241-C-202, Auger Samples 95-AUG-026 and 95-AUG-027"		EDT NO.: EDT-612162 ECN NO.: N/A

Name	MSIN	Text With all Attach	EDT/ECN ONLY	
Washington State Department of Ecology Single-Shell Tank Unit Manager S. E. McKinney P.O. Box 47600 Olympia, Washington 98504-7600		X		
Environmental Protection Agency Single-Shell Tank Unit Manager D. R. Einan 712 Swift Boulevard, Suite 5 Richland, Washington 99352		X		
U. S. Department of Energy Jim Poppiti 12800 Middlebrook Rd. Trevion II, EM-36 Germantown, MD 20874			X	
Los Alamos Technical Associates A. T. DiCenso 750 Swift Boulevard Suite # 4 Richland, WA 99352		X		

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